EVALUATING THE EFFICACY OF AN ECOLOGICAL INTERVENTION FOR STUDENTS WITH PERVASIVE PROBLEM BEHAVIORS

by

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This study evaluated the effectiveness of a multi-component intervention composed of (a) one-on-one teacher-student interaction, (b) teacher provided process praise, and (c) family-teacher good news phone calls on problem behavior among students in elementary school. A single-subject multiple baseline design was utilized to examine the functional relation between the intervention and student outcomes. Participants were two teachers and three students with high levels of problem behavior as well as low quality relationships with their teachers. Students met individually with teachers one time per week to develop and discuss student centered goals. Teachers provided students with specific process praise and made weekly good news phone calls to the students' families. These components were predicted to improve student levels of academic engagement and reduce disruptive behavior through increasing relationship quality. Results suggested the intervention shows promise in decreasing disruptive behavior. No relationship was found between the intervention and academic engagement. Teacher reports provided descriptions of their perceptions of increased relationship quality and social validity.

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CHAPTER I

INTRODUCTION

Emotional and Behavioral Problems

The presence of occasional behavior problems is common among elementary school children (Forness, Kim, & Walker, 2012; Harrison, Vannest, Davis, & Reynolds, 2012; Snider et al., 2002; Spaulding et al., 2010). Unfortunately, children who exhibit ongoing elevated levels of problem behaviors in school are at a higher risk of experiencing academic, emotional, and social adjustment difficulties than their peers who display school appropriate and pro-social behaviors (McLeod & Kaiser, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). Students who display externalizing behavior problems typically have difficulty initiating and maintaining positive social relationships (Birch & Ladd, 1998; Gresham & MacMillan, 1997; Murray & Murray, 2004) and performing developmentally appropriate academic tasks (McLeod & Kaiser, 2004; Reid et al., 2004). The developmental problems associated with chronic behavior problems often manifest early in childhood and tend to have enduring negative effects throughout adulthood (Burke, Loeber, & Birmaher, 2002; Kauffman, 2001; Walker, Ramsey, & Gresham, 2004).

For some children, problem behavior is a habitual and pervasive pattern of responding. Spaulding and colleagues (2010) found that, among their sample of students who had received at least one office referral across more than 1,000 U.S. elementary schools, 33% of the students received six or more Office Discipline Referrals (ODRs), while another 42% received two to five. Moreover, in 84% of cases, Spaulding et al. found that the administrative response to student ODRs was to hold a student conference,

revoke privileges, contact parents, retain student in office, and assign detention or suspension. The large proportion of students who received any ODRs having received multiple ODRs may suggest that some of these typical administrative responses to misbehavior are ineffective for this subset of students. Disruptive behaviors are also a major concern for teachers according to Harrison and colleagues (2012), who examined teacher perceptions of problematic behavior among a nationally representative sample of 1,800 children ages 6-11 years. Teachers reported that as many as 24% of students were *almost always* distracted (e.g., general distraction, task distraction, and distraction during lecture), and 10% of all the children were perceived as *almost always* having disruptive behaviors, such as talking without permission and displaying excessive movement. Taken together, these data suggest that, while a certain degree of problem behavior may be normal among school-aged children, an alarmingly large percentage of children suffer from high levels of ongoing problem behavior ranging from distraction and disruption to defiance and aggression.

Persistent problem behavior can lead to special education referral and a diagnosis as emotionally disturbed (ED). Emotional disturbance is defined in the Individuals with Disabilities Education Improvement Act as the following.

> Emotional Disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors, (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, (c) inappropriate types of behavior or feelings under normal circumstances, (d) a

general pervasive mood of unhappiness or depression, (e) a tendency to develop physical symptoms or fears associated with personal or school problems (2004). The disability category of ED accounts for less than 1% of the U.S. school population ages 6-21years (Data Accountability Center, 2011). Yet, as Forness, Kim et al. (2012) suggest, this percentage is misleading because prevalence rates based upon psychiatric diagnoses are much higher.

The American Psychiatric Association (2010) categorizes emotional and behavioral disorders within the psychiatric disorders classification; this includes attention deficit hyperactivity disorders, oppositional defiant and conduct disorder, among others. Forness, Kim, et al. (2012) argue that a more accurate estimate of the prevalence of emotional and behavioral disabilities is gained by using psychiatric disorder criteria. Roberts, Attkisson, and Rosenblatt (1998) found the point prevalence rate of psychiatric disorders among elementary students to be 13% in the United States. Forness, Freeman, Paparella, Kauffman, and Walker (2012) reviewed nine psychiatric epidemiological studies between 1995 and 2010 and found an average point prevalence rate for psychiatric disorders of 12%. These estimates signify that a large number of children and youth are experiencing psychiatric disorders and associated negative outcomes.

Children identified with ED exhibit lower levels of academic adjustment than their peers (Reid et al., 2004; Trout, Nordness, Pierce, & Epstein, 2003; Wagner et al., 2003). For example, only 28% of students with ED receive mostly As and Bs, compared to 42% of students across all disability categories (Wagner et al., 2003). Further, Trout et al. (2003) examined the academic status of children with EBD in their review of literature from 1961 to 2000 and found that 32 of the 35 articles reported that students with ED

performed below grade level in academic areas. Reid et al. (2004) corroborated these findings and reported that children with ED performed significantly lower than their nondisabled peers across *all* academic subject areas. Other findings indicate that academic difficulties among children with ED persist into adolescence and adulthood (McLeod & Kaiser, 2004).

Ecological Model

According to the ecological perspective, positive social relationships and interactions are critical to healthy human development. The ecological model posits that human development is shaped through the interaction between an individual and multiple contexts (Bronfenbrenner, 1977, 1979). These contexts are "conceived as a set of nested structures, each inside the next, like a set of Russian dolls" (Bronfenbrenner, 1979, p. 3). Therefore, an analysis of individual development must consider different spheres of influence and experience (microsystem, mesosystem, exosystem, and macrosystem). The microsystem refers to the direct personal interactions of the actor. As such, the microsystem of children's school lives primarily consists of interactions with family members, teachers, and peers. The mesosystem refers to the intersection of different contexts, such as family and school. Among school-aged children, parent-teacher interactions are an example of the mesosystem.

A central feature of the ecological model is the reciprocity of effects or, as stated by Bronfenbrenner (1979), "…the effect of A on B, but also the effect of B on A" (p. 519). Reciprocity is the bi-directional influence on both actors. As represented in Figure 1, the behaviors of a child influence the behaviors and cognitions of their teacher, and the behaviors of the teacher influence the behaviors and cognitions of the child. Interpersonal

interactions within a portion of the microsystem also have indirect effects on relationships in other facets of the microsystem through spillover effects (for discussion see Katz & Gottman, 1996). Additionally, interactions at the mesosystem level can affect development. For example, Dearing, Kreider, and Weiss (2008) found that family involvement in children's schooling predicts teacher-student relationship quality.

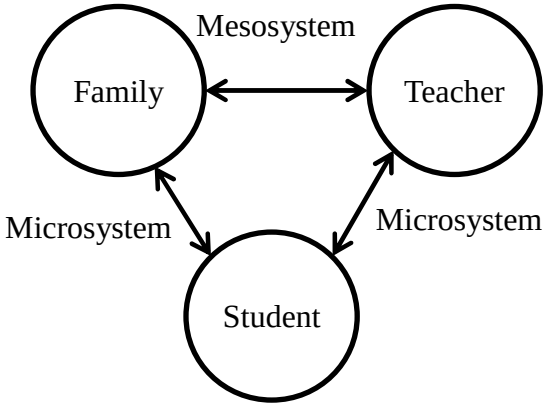


Figure 1. Microsystems and mesosystem of a student.

Study Purpose

The adjustment difficulties associated with behavior problems are severe and enduring (Burke, Loeber, & Birmaher, 2002; Kauffman, 2001; Walker et al., 2004). A large proportion of children have emotional and behavioral disorders (Roberts et al., 1998; Forness et al., 2012), and many children with pervasive problem behaviors do not comply to established school procedures (Spaulding et al., 2010). According to an ecological framework, child behaviors are influenced by interrelated social contexts. A child's school context contains his or her relationships with teachers (microsystem) and the intersection of his or her family and school (mesosytem).

This study assessed the effects of a three-component intervention that included (a) one-on-one teacher-student interaction, (b) teacher provided process praise, and (c) family-teacher good news phone calls. This intervention aimed to increase academic engagement and decrease problem behaviors among children with high levels of externalizing behaviors. The following will review and summarize the three components of the intervention.

CHAPTER II

LITERATURE REVIEW

Teacher-Student Relationships

Teacher-student relationships are studied relative to quality, with poor quality relationships characterized by high levels of conflict and low levels of closeness. In contrast, high quality teacher-student relationships are characterized by low levels of conflict and high levels of closeness (Hamre & Painta, 2001; O'Connor, Collins, & Dearing, 2011). Among children, poor quality teacher-student relationships are related to negative adjustment, such as academic failure, depression, and high levels of externalizing behaviors (Birch & Ladd, 1998; Murray & Greenberg, 2006; O'Connor & McCartney, 2007; Silver, Measelle, Armstrong, & Essex, 2005), whereas high quality teacher-student relationships are associated with positive student adjustment, such as social skill development, academic success, and low levels of externalizing behavior problems (O'Connor & McCartney, 2007; O'Connor et al., 2011; Tsai & Cheney, 2012). Unfortunately, students with pervasive behavioral problems experience fewer positive teacher-student interactions than their non-disabled peers (Henricsson & Rydell, 2004). Further, when faced with problematic student behaviors, teachers who have low quality relationships with their students tend to rely on coercive behavior management techniques, which can inhibit their capacity to provide positive and warm learning environments (Hamre & Pianta, 2001; Pianta, Steinberg, & Rollins, 1995).

Teacher-student relationship quality is correlated with externalizing behavior problems (Baker, Grant, & Morlock, 2008; Hughes, Cavell, & Jackson, 1999; O’Connor et al., 2011; Wu, Hughes, & Kwok, 2010). O’Connor, et al., (2011) examined the

relationship between externalizing behavior problems and teacher-student relationship quality among over 1,000 children in elementary schools. These researchers identified five groups based on levels of externalizing behaviors: (a) very low, 17%; (b) low, 27%; (c) moderate-low, 33%; (d) moderate, 19%; and (e) high, 4%. The researchers then identified four teacher-student relationship trajectories that included: (a) strong, 73%; (b) strong-worsening, 16%; (c) poor-improving, 7%; and (d) poor-worsening, 4%, which they then mapped onto patterns of externalizing problem behavior. After controlling for family factors (i.e., SES, parent education level, support and stimulation), school factors (i.e., teacher self-efficacy, percent of students on free and reduced lunch, positive classroom environment) and child factors (i.e., gender, hours in day care, language ability), they found that high quality teacher-student relationships were negatively correlated with externalizing behavior patterns. That is, children in the strong relationship trajectory group exhibited very low levels of externalizing behaviors, while children in the poor-improving, poor-worsening, and strong-worsening relationship trajectory groups had higher levels of problem behaviors. This suggests that, regardless of family and school contexts or child gender and language ability, children who experience warm caring relationships with their teachers tend to have more school appropriate behavior than do their peers who experience poor quality or worsening relationships with teachers.

Teacher-student relationships are also predictive of school engagement (Wu et al., 2010). Wu et al. (2010) collected longitudinal data on student, teacher, and peer perceptions of teacher-student relationship quality along with teacher ratings of academic engagement across a 6-year period. When examining levels of congruency between student and other (i.e., teacher and peer) reports, these researchers identified four distinct

clusters among the sample of 706 academically at-risk first-graders. The first group, congruent positive (n = 279), agreed with their teachers and peers that they had a high quality relationship with their teacher. The second group, incongruent positive (n = 165), disagreed with their teachers and peers that they had a high quality relationship with their teacher. The third group, congruent negative (n = 70), agreed with their teachers and peers that they had a low quality relationship with their teacher. The fourth group, incongruent negative (n = 195), disagreed with their teachers and peers that they had a low quality relationship with their teacher. Wu et al. then examined these groups for differences in teacher reports of academic engagement. The results indicated that the highest levels of engagement were predicted by teacher and student perceptions of a positive relationship, with the second highest levels of engagement predicted by teacher perceptions of a positive relationship in spite of child perceptions of a negative relationship. The lowest levels of engagement were predicted by teacher perceptions of a negative relationship, regardless of child perceptions. That is, when a teacher perceives a student relationship to be negative, the child will likely have low levels of engagement. One interpretation of this finding is that, when teachers judge a relationship to be of poor quality, they may inadvertently provide less opportunity for engagement.

As noted above, the importance of high quality teacher-student relationships for the academic and behavioral adjustment of children has been demonstrated in correlational studies. Unfortunately, there is a dearth of studies designed to examine interventions targeting teacher-student relationship quality. Lander (2009) conducted a case study of an intervention designed to improve the relationship between a 12-year-old with disruptive behaviors and his teacher. The intervention consisted of a therapist

delivered emotion-focused training program. In emotion-focused therapy, the therapist guides the clients to explore deep levels of cognitive and emotional awareness. To facilitate this process, the therapist must create and maintain a therapeutic alliance, access emotions, and restructure interactions. Upon conclusion of the 10-week therapy, classroom observations indicated that improvements of teacher-student bonds were associated with a nearly complete termination of the student's behavior difficulties. Lander further noted that improvements in this relationship were associated with concomitant reductions of other classmate behavior problems. Interestingly, Lander noted that, before emotion-focused therapy, "neither conventional punitive discipline approaches, such as detention and suspension, nor behavioristic counseling had been effective in reducing the student's misbehavior" (p. 237).

These findings suggest that teacher-student relationships are malleable and have the potential to support effective behavioral interventions among students for whom traditional interventions are ineffective. Thus, increasing teacher-student relationship quality may be a viable approach for decreasing student problem behavior. Lander's findings also suggest that one especially negative relationship can have the toxic effect of increasing other student problem behaviors. In spite of these optimistic findings, it is unfortunate that emotion-focused therapy is exceedingly time and labor intensive, rendering it impractical for deployment in schools. Specifically, in Lander's study, a highly trained therapist was required to administer the intervention, and the therapist, teacher, and student triad needed to synchronize schedules for the weekly meetings. Additionally, the teacher and student were led through emotional exploration that could induce either participant to withdraw from treatment.

Using a randomized control group design, Murray and Malmgren (2005) examined the effect of a teacher implemented teacher-student relationship intervention on students' social, behavioral, emotional, and academic adjustment. These researchers collected pre- and post- intervention data from eight teachers and 48 high school youth who had significant behavioral problems. The intervention was delivered to four or five students by each teacher across 5 months and was composed of three parts: (a) weekly one-on-one teacher-student meetings, (b) teacher provided praise, and (c) monthly phone calls to the student to discuss school progress. Although the results of this 5-month intervention indicated that the two groups differed significantly on grade point average following exposure to the intervention, the groups did not differ on several other measures of social, behavioral, and emotional adjustment. Despite the lack of positive effects, this study demonstrated the feasibility of a teacher implemented relationship-focused intervention and illustrates the potential effects teacher-student relationships can have on academic performance. Murray and Malmgren noted two potential limitations that may have precluded a significant impact on the expected outcomes in their study: (a) high school students interact with multiple teachers throughout the day and this intervention, delivered by one teacher, may not have been intense enough to produce the desired changes; and (b) teachers in the study were assigned five students each which may have made it difficult to devote the time required to establish supportive relationships.

Summary of teacher-student relationships. Taken together, the above discussion on teacher-student relationships indicates that positive, warm, and caring relationships are correlated with positive emotional, behavioral, cognitive, and academic

adjustment (O'Connor & McCartney, 2007; O'Connor et al., 2011; Tsai & Cheney, 2012). Intervention research in this area is limited, but initial research suggests that teacher-student relationships are malleable (Lander, 2009) and that such interventions, while not necessarily effective, given the right conditions, can be delivered by teachers (Murray & Malmgren, 2005). The current study proposes to extend these findings by implementing a teacher delivered intervention with the aim of increasing teacher-student relationship quality among elementary students with pervasive problem behaviors.

Praise

Feedback can be classified into the two broad categories of praise and criticism. Praise is positive feedback following the presence of an identified behavior. There is a long history of empirical research exploring the correlates and effects of providing praise to children (Hester, Hendrickson, & Gable, 2009). In fact, as early as the 1960s, social scientists were documenting the benefits of providing positive feedback to students (Becker, Madsen, & Arnold, 1967; Madsen, Becker, & Thomas, 1968; Zimmerman & Zimmerman, 1962). Praise is rooted primarily in behavioral theory and the phenomenon that positive reinforcement increases the likelihood a targeted behavior's reoccurrence (Hester et al., 2009). Praise that follows a targeted behavior will likely increase the strength and/or the frequency of the behavior, given that praise is a desired consequence (Alberto & Troutman, 1986). Not only has praise been found to be an effective and powerful form of feedback, it has also been found to influence motivation and self-concept (Dweck, 1999; Kamins & Dweck, 1999).

When providing praise to students, there are a number of guidelines that should be followed and potential pitfalls to be avoided. In their review of 40 years of praise

research, Hester et al. (2009) noted that effective praise must be (a) contingent (i.e., provided based upon the presence of an identified target behavior), (b) immediate (i.e., following the presence of a targeted behavior), (c) consistent (i.e., occurring in a predictable manner), (d) proximal (i.e., delivered in close physical vicinity to the receiver), (e) specific (i.e., describing the behavior), and (f) individualized (i.e., tailored to the wants or needs of the receiver).

Teachers can reward targeted behaviors by employing behavior contingent praise, as opposed to behavior contingent reprimands. Moreover, behavior specific praise increases positive behavior as well as academic adjustment for students with emotional and behavioral disorders (Sutherland, Wehby, and Copeland, 2000). Yet, students with high levels of problem behaviors tend to receive high levels of reprimands and inconsistent or low levels of behavior specific praise from teachers (Van Acker, Grant, & Henry, 1996). Van Acker et al. (1996) observe:

> The most disheartening finding . . . relates to predictability of teacher behavior for those students displaying the highest risk for aggression. Praise for these students appears to be a random event. That is, praise cannot be predicted to follow any specified high-risk student behavior above chance levels. Reprimand, however, is a predictable behavior. Thus, a high-risk student wishing to increase the predictability of the classroom must resort to inappropriate behavior. (Discussion section, para. 10).

Andrews and Kozma (1990) examined the relationship between rates of teachers' task-specific praise and students' on-task behavior. In their single-subject study, data were collected on rates of praise and on-task behavior across A, B1, B+C, B2, and B+D

phases. The intervention consisted of increasing teacher-provided praise rates and focusing praise on specific students. The baseline phase consisted of naturally occurring rates of praise (observed = 2.1/hour). During the first intervention phase (B), teachers provided praise contingent upon an auditory prompt (observed praise rate = 34 /hour). During the second intervention phase (B+C), auditory prompts for praise as well as instructions to target students with low on-task behavior were provided (observed praise rate = 29/hour). The third intervention phase (B2) returned to auditory prompts for praise (observed praise rate = 9/hour). During the last intervention phase (B+D), auditory prompts as well as feedback to teachers about their rate of praise were provided, with the intent of achieving a criterion praise rate of 30/hour (observed praise rate = 19/hour). Observational data on student on-task behavior gathered during all phases of this study were used to classify students into three groups: (a) low on-task, (b) medium on-task, and (c) high on-task. The functional relationship between rates of praise and on-task behavior was then evaluated for each of these groups and showed that praise had a positive effect on the on-task behavior for all three groups of students. Moreover, the effects of praise on students' on-task behavior were most pronounced for the low on-task students, followed by the medium on-task students. This suggests that praise is an especially potent form of behavior management for students with chronically low levels of academic on-task behavior.

Sutherland, Wehby, and Copeland (2000) provided further empirical evidence for the beneficial effects of behavior-specific praise in their study of fifth-grade students with ED. During the baseline phase of their ABAB design, observational on-task data were collected while teachers provided naturally occurring rates of task-specific praise. During

the intervention phase, teachers increased their rates of behavior-specific praise to a criterion level of 6 per 15-minute observation session. The intervention was then withdrawn (return to baseline phase) and then reintroduced (second intervention phase). Findings revealed that during both intervention phases, children demonstrated higher levels of on-task behavior than during the nonintervention phases. These results are important because they demonstrate a relationship between praise and on-task behavior among students with ED.

Recent research has been instrumental in further examining "types" of praise and the importance of specific forms or types of praise on student adjustment (Kamins & Dweck, 1999; Mueller & Dweck, 1998). According to Kamins and Dweck (1999), praise most commonly targets either personal traits or processes. Person praise, praise that identifies personal traits, has been found to be predictive of fragile internalized feelings of competence. Conversely, process praise, praise focused on effort and strategies employed by the person, has been found to be related with robustness or resilience to experiences of failure (Mueller & Dweck, 1998). From this perspective, person praise is a factor that promotes a child to perceive that his or her successes or failures are due to innate traits. This, in turn, leads to vulnerability to defeatism when encountering future failure. In contrast, process praise suggests to a child that his or her successes or failures are due to effort. Children who endorse effort as critical to success tend to attribute success or failure to factors under their personal control. This, in turn, increases their resilience to failure.

Mueller and Dweck (1998) examined the different responses to failure between three groups of fifth-grade children following task performance. Children in the first

group received person praise (e.g., *You must be smart at these problems*, *n* = 41); children in the second group received effort praise (e.g., *You must have worked hard at these problems*, *n* = 41); and children in the third group received no feedback (*n* = 46). Children were then asked to complete a second task. Following the second task, all groups were told they performed much worse than they did on the first task. Children were then asked to complete a third task, to enable the assessment of post-failure performance.

Mueller and Dweck (1998) found the groups differed significantly on post-failure task persistence, enjoyment, and performance, as well as failure attributions. Specifically, following the second task (failure), children in the initial process praise group demonstrated a significantly higher likelihood to persist than did children in the person praise and control groups. Results also indicated that, although there were no pre-failure performance differences between groups, the process praise group demonstrated increased performance from tasks 1-3, whereas students in the person praise group demonstrated decreasing performance across these same conditions. Moreover, children who received the process praise reported significantly more task enjoyment following failure than did the children who received person praise and children who received no praise.

Kamins and Dweck (1999) demonstrated a similar result among kindergarten children (*n* = 64). These researchers examined children's ability to cope with setbacks following the receipt of person or process praise. Children performed six separate role-plays in which the children worked on a task; four involved success and two involved failure. Following the role-plays, the children were provided praise that differed

according to group (person, n = 33; process, n = 19; outcome, n = 12). Children then provided self-report data on measures of self-assessment (i.e., the extent to which they measure themselves from a mistake), affect, and persistence. Results indicated that following a failure event, children who received person praise had greater helpless reactions (i.e., cognitive, affective, and behavioral) than did children who received process praise.

Taken together, the findings of Mueller and Dweck (1998) and Kamins and Dweck (1999) suggest that the type or form of praise children receive plays an important role in reactions to failure. Process praise appears to be a protective factor that counters failure, whereas person praise tends to be a risk factor that can compound the negative outcomes associated with the experience of failure. In addition to the positive outcomes associated with the provision of process praise, other researchers have found that children actually *prefer* process praise (Burnett, 2001).

Summary of research on praise. In summary, praise is a form of feedback well suited for teacher behavior management. Not only can praise increase target behaviors (Andrews & Kozma, 1990; Sutherland et al., 2000), when provided correctly it can also produce positive effects on children's cognitive, affective, and behavioral reactions to failure (Kamins & Dweck, 1999; Mueller & Dweck, 1998). Teachers and school staff members should follow some basic guidelines: deliver process praise that targets specific behaviors, is behavior contingent, and is individualized to meet student needs. As noted by Dweck (1999):

> [Teachers] should wax enthusiastic about [student] strategies, not about how their performance reveals an attribute they are likely to view as innate and beyond their

> control. We can rave about their effort, their concentration, the effectiveness of their study strategies, the interesting ideas they came up with, the way they followed through. We can ask them questions that show an intelligent appreciation of their work and what they put into it. We can enthusiastically discuss with them what they learned (p. 3).

Teacher-Family Collaboration

Families play a vital role in children's school adjustment, academic success, and general development (Guli, 2005; Henderson & Mapp, 2002). Collaborative approaches to family-teacher involvement require stakeholders to have mutually shared goals, respect, and reciprocated trust (Christenson & Conoley, 1992). Family-teacher collaboration emphasizes the importance of support from teachers to families and that teachers should learn from families (Minke & Anderson, 2005).

Families can be comprised of biological parents, adoptive parents, foster parents, grandparents, aunts and uncles, siblings, and a number of other configurations. In the current paper, family refers to the adults who play the major role in rearing children. The benefit of establishing and maintaining strong family-school partnerships has been documented by Henderson and Mapp (2002), who reviewed 30 years of parent and family involvement research. According to Henderson and Mapp:

> When families of all backgrounds are engaged in their children's learning, their children tend to do better in school, stay in school longer, and pursue higher education. Clearly, children at risk of failure or poor performance can profit from the extra support that engaged families and communities provide (p.73).

Family-school collaboration can serve as a protective factor that buffers a multitude of risks (e.g., low socioeconomic status, negative school experiences, minority ethnicity, disability status, and poor family bonding) that negatively affect many educational outcomes (Christenson & Sheridan, 2001; Murray, 2003).

Epstein and Dauber (1991) detail five types of family-school involvement. The first, *basic obligations of families*, refers to providing positive home conditions that support school learning, such as by developing positive parenting skills and providing a safe and healthy pro-school home environment. The second, *basic obligations of schools*, refers to communications with families regarding school progress and programs, such as phone calls, report cards, written notes, and conferences. The third, *involvement at school*, refers to including families in the classroom and other school functions. The fourth, *involvement in learning activities*, refers to family assistance at home with their children's school-related activities. The fifth, *involvement in decision making*, refers to inclusive and participatory parent roles in school governance and child advocacy.

Several school-based approaches that can foster family-school partnerships include: (a) operate under the assumption that all families want to be involved in their children's education, and that all families can help improve their teen's educational outcomes; (b) abstain from blaming families for student problems; (c) ask families to share the ways they support their teens at home; and (d) create opportunities to learn about family context and culture, parents' goals, and perspectives on learning (Henderson & Mapp, 2002; Hoover-Dempsey et al., 2005).

Lawson (2003) conducted semi-structured interviews with groups of uninvolved (n = 7) and involved (n = 6) parents to examine perceptions of barriers to their

involvement. Lawson identified three themes that families perceive as barriers to their involvement: (a) parent-teacher communication, (b) parents' trust in schooling, and (c) children's attributions of involvement. In relation to communication, one parent remarked:

> Schools need to be there. And to listen. And, I know that sometimes there may be too much information to swallow, but parents here have got stories to tell, and experiences to share. And, they may not be pleasant stories. But they need to be heard, and schools need to listen. They need to listen to us. No matter what we say (p. 97).

Distrust was also identified as a barrier to family involvement. For some parents, lack of trust led them to approach teacher interactions with hostility, even when the teacher initiated contact to communicate a positive message. Lawson's interviews also demonstrated parent perceptions that their children attribute family involvement to their behavior problems. Yet, the parents also noted that increased positive teacher communication would potentially change their children's attributions. In sum, Lawson's study suggests that families of elementary students value two-way communication (with an emphasis on increasing teacher listening), value teacher communication of student strengths and qualities, and see a need for family-teacher trust in their children's schooling. As such, increasing positive communication shows promise as an effective method to counter the above barriers to family-teacher collaboration.

Watkins (1997) examined the relationship between parent perceptions of teacher communication, parent involvement, and student academic achievement among children in second through fifth grade (n = 303). Watkins surveyed parents on their perceptions of

teacher communication (e.g., *How often does your child's teacher give you reports or notes about your child's progress? tell you about your child's strengths and positive qualities?*) and parent involvement (e.g., *How often do you talk to your child about what he or she is learning in school? review and discuss graded assignments or work?*). Results of this study indicated that parent perceptions of the *frequency* of teacher communication predicted parent involvement in learning activities. In addition, children who had high-involved parents had higher levels of academic achievement. These results suggest that something as simple as providing frequent family-teacher communication has the potential to increase global family involvement.

Family and teacher perceptions of family involvement have been found to differ (Lawson, 2003; McWilliam, Maxwell, & Sloper, 1999). McWilliam et al. (1999) examined the multiple stakeholder perceptions of family-centered practices in schools. These researchers surveyed 88 special education teachers, 67 regular education teachers, 75 families of students with disabilities, and 46 families of students without disabilities. They found that regardless of disability, families reported receiving lower levels of family-centered practices than they reported to be ideal. Additionally, families of students with disabilities perceived receiving lower levels of family-centered services than the teachers perceived providing. The McWilliam et al. findings, that teacher and parent perceptions of the support are discordant, suggest that teachers may need structured systems to facilitate and monitor their interactions with families.

Adams and Christenson (2000) assessed differences in perceptions of trust within family-school relationships between parents of students (n = 1,234) and their teachers (n = 209). This study was unique in that the sample included students from kindergarten

through 12th grade. Families and teachers were surveyed on their perceptions of trust, frequency and nature of family-teacher interactions, and both groups were asked to provide recommendations to improve trust. Results of the study indicated that family perceptions of trust were significantly higher during elementary school than middle and high school. Teachers' responses indicated that, while their perceived levels of trust were more stable across school level than parents, teacher perceptions of trust were significantly greater during elementary school than high school. Parent and teacher responses indicated a difference between the groups, with parents reporting significantly higher levels of trust in teachers than vice versa during elementary and high school. As a follow-up, Adams and Christenson further asked families and teachers their opinions about the one thing that could increase trust between the groups. In response, families and teachers both expressed the importance of communication as a primary way of increasing trust.

Izzo, Weissberg, Kasprow, and Fendrich (1999) conducted a longitudinal assessment of teacher perceptions of family involvement. Data were collected on teacher perceptions of parent involvement and the school performance of 1,205 children, kindergarten through third grade, across 3 years. The parent-teacher involvement construct consisted of quantity of contact and quality of interaction factors. The school performance construct consisted of engagement and socioemotional adjustment and included items that reflected student acting out, learning problems, task orientation, and frustration tolerance, shy-anxiousness, peer social skills, and assertive social skills. Izzo and colleagues found that teachers reported that both the number of contacts and the quality of interactions decreased as the children progressed through school. Further, the

quantity of family-teacher contacts was negatively related to school engagement and socioemotional adjustment during the third year of the study. Finally, the results also demonstrated the *quality* of family-teacher interactions was positively related with engagement and socioemotional adjustment. These findings suggest the amount of teacher contact with parents declines over time and the quality of contact becomes poorer. Moreover, higher levels of family-teacher contact coincide with lower levels of engagement and socioemotional adjustment. It can be inferred that communication was focused on child social and behavioral problems. Conversely, the findings suggest that when the interactions are of high quality children tend to have low levels of social and behavioral problems.

In addition to the correlational studies, experimental studies have demonstrated a causal relationship between family-school collaboration and children's behaviors (Cox, 2005). For example, Ialongo et al. (1999) conducted a randomized block control designed study to explore the impact of a family-school partnership intervention delivered during first grade on student problem behaviors at the beginning of second grade. The intervention consisted of (a) teacher training on family-teacher communication and collaboration, (b) weekly communication and home learning activities, and (c) nine weekly parent training workshops. Ialongo et al. collected teacher and parent perceptions of children's acceptance of authority, social participation, as well as readiness to work and concentration. Examination of the dependent measures demonstrated that the children who had received exposure to the family-school partnership intervention had significantly lower levels of teacher-rated total problem behaviors than did children in the control group at the beginning of second grade. This finding indicates that family-school

collaboration is malleable and that collaboration can effect change in student problem behavior.

Reid, Eddy, Fetrow, and Stoolmiller (1999) conducted a randomized trial (*n* = 671, 1st or 5th grade) of a conduct problem prevention intervention (LIFT, Linking the Interests of Families and Teachers). This intervention was designed to target at-risk elementary children and their families through school-based activities, parent training, and teacher-family communication. The intervention was delivered across the winter quarter of the school year. The teacher-family connection component was included as a method of increasing family involvement in their child's school experiences. The primary part of this component consisted of teachers leaving an outgoing message on an answering machine about class activities, school events, and homework. The parents could call to listen to these messages at any time, as well as leave a message for the teacher. The results of this intervention trial indicated that children in the intervention group had lower levels of physical aggression, mother aversive verbal behavior, and higher levels of peer-preferred behavior than the control group children during the fall of the following school year. Interestingly, parent feedback identified the teacher-family connection component as one of the most popular components among the families; 21 calls were made on average per family across the intervention period. The results of this study suggest that teacher-family communication in combination with other interventions contributes to decreasing problem behaviors across multiple settings and is appreciated by parents.

Recent findings suggest that family-school interactions may also be predictive of teacher-student relationships (Dearing et al., 2008; Wyrick & Rudasill, 2009). Dearing

and colleagues (2008) examined 5 years of longitudinal data collected from 329 children and their families. Family participants in this study provided information on their levels of school involvement (e.g., attendance at various school-related activities) and children reported on the quality of their relationships with teachers. Results indicated that higher levels of family involvement predicted better teacher-student relationships and the inverse held true. In fact, an increase of only two family-school activities each year predicted a corresponding increase of a half standard deviation in teacher-student relationship gains. Dearing et al. (2008) also found that there is an indirect association between increases in family involvement and increases in children's school attitudes. Together these findings indicate that, through facilitating increased family involvement, teachers likely can increase the quality of their relationships with their students, thus increasing students' acceptance of school.

Summary of family-teacher collaboration. In summary, family-teacher collaboration is an important component of a child's mesosystem and has been shown to influence the child's school and behavioral adjustment. Importantly, collaboration can be enhanced through communication between teachers and families, and families value communication with teachers. Not only can collaborative efforts help families and schools work to foster learning among children, but also, relative to the ecological model, increases in family-teacher collaboration may have a beneficial influence on the student-family and teacher-student microsystems of a child.

Summary

Children who display ongoing behavior problems at school face a greater risk of academic, emotional, and social adjustment problems than their peers (McLeod & Kaiser,

2004; Reid et al., 2004). An ecological systems development model highlights the importance of positive interpersonal relationships for normative development. Teacher-student relationships established through ongoing involvement, praise, and family-teacher collaboration show promise as methods for improving the adjustment outcomes for children with pervasive behavior problems.

Supportive teacher-student relationships are associated with social skill development, academic success, and reduction of externalizing behavior problems (O'Connor & McCartney, 2007; O'Connor et al., 2011; Tsai & Cheney, 2012). In contrast, poor quality teacher-student relationships are related to academic failure, delinquency, and increased externalizing behaviors (Birch & Ladd, 1998; O'Connor & McCartney, 2007; Silver et al., 2005). Unfortunately, children with pervasive behavioral problems experience poorer teacher-student interactions and more negative outcomes than their peers (Henricsson & Rydell, 2004), and teachers who have poor quality relationships with students tend to rely on coercive behavior management techniques (Hamre & Pianta, 2001; Pianta et al., 1995). Teacher-student relationships have been shown to be malleable (Lander, 2009), and interventions designed to improve these relationships can be implemented in the course of normal school routines (Murray & Malmgren, 2005).

Praise is shown to be efficacious in strengthening and increasing target behaviors, as well as improving motivation, task enjoyment, and performance (Becker et al., 1967; Hester et al., 2009; Madsen et al., 1968; Zimmerman & Zimmerman, 1962). Teacher delivered praise has been linked to general positive behaviors, specific on-task behavior, and academic adjustment among children with emotional and behavioral disorders

(Andrews & Kozma, 1990; Sutherland et al., 2000). Yet, to be effective, praise needs to be behavior contingent, immediate, consistent, proximal, specific, and tailored to individual needs (Hester et al., 2009). Praise that targets a child's strategies and processes has been linked to favorable results, such as increased motivation, task enjoyment, and performance (Kamins & Dweck, 1999; Mueller & Dweck, 1998). In total, process praise can be a very effective behavior management tool in the hands of teachers that not only facilitates acceptable student behavior but also children's motivation, enjoyment, and resilience to failure experiences.

Family-teacher collaboration can function as a protective factor that can counter a number of risk factors experienced by children, e.g., low socioeconomic status, negative school experiences, minority ethnicity, disability status, and poor family bonding (Christenson & Sheridan, 2001; Murray, 2003). Collaboration between teachers and families can be impeded by lack of communication, low levels of trust, and children attributing collaborative efforts to their behavior problems (Lawson, 2003). The frequency of communication between teachers and parents has been demonstrated to be predictive of family involvement in their children's school lives (Watkins, 1997). Yet, as Epstein (1986) notes, in spite of the ubiquity of telephones as a medium of communication, only 40% of parents of first through fifth grade students (n = 1,269) had *ever* spoken to their child's teacher on the phone. Moreover, Adams and Christenson (2000) report that both families and teachers perceive communication to be a crucial opening to foster trust in their relationship.

Research suggests that the families of children with low levels of on-task behaviors and poor socioemotional development have more contact with their child's

teachers (Izzo et al., 1999). It is, therefore, reasonable to infer that teacher-parent communication focuses primarily on child behavioral difficulties. Further evidence of this logic lies in the finding that poor quality family-teacher interactions are positively linked with problem behaviors (Izzo et al., 1999). As such, to realize the benefits of increased communication, it is important to ensure that the communication is of high quality. Finally, as postulated by the ecological framework, one set of dyadic relationships can influence another related set of dyadic relationships through what are considered spillover effects (Katz & Gottman, 1996). Dearing et al. (2008) note spillover effects, "whereby one dyadic relationship (e.g., parent-parent relationship) influences another dyadic relationships (e.g., parent-child relationships) in children's social systems, have been well documented *within* families" (p. 230). They further argue that spillover effects from a positive family-teacher relationship may positively influence the child-teacher relationship.

Current Study

The purpose of this study was to examine changes in student disruptive behaviors and academic engagement in response to exposure to a packaged intervention consisting of structured one-on-one teacher-student interaction, teacher delivered process praise, and informal family-teacher communication. Student and teacher perceptions about levels of teacher-student relationships were assessed prior to and following the intervention as supportive evidence of the efficacy of the intervention. Teacher perceptions about the social validity of the intervention were also assessed.

Past research has demonstrated links between (a) teacher-student relationships and child adjustment; (b) praise and child behaviors, as well as response to failure; and

(c) family-teacher collaboration and child behavior, as well as teacher-student bonding. This literature base is largely correlational in nature. What is missing is research that examines the impact of teacher-student relationships, praise, and family-teacher collaboration concurrently. The current study addressed this need through the following questions:

Research Question 1: Is there a functional relation between a multicomponent intervention that includes increased one-on-one teacher-student interaction, teacher delivered process praise, and family-teacher communication *and* disruptive behavior and academic engagement among elementary school students with high levels of externalizing behavior?

Research Question 2: Do teacher perceptions of the teacher-student relationship increase following their exposure to the intervention?

CHAPTER III

RESEARCH METHODS

This study employed a single-subject multiple baseline design (Kennedy, 2005) to examine the possible functional relation between the intervention and student behavior. The rationale behind the use of this methodology is that single-subject research is particularly well suited to detect a causal relationship between an intervention and dependent variables. As Horner and colleagues (2005) note, single-subject designs are employed when the purpose is to "identify and validate effective clinical interventions" (p. 171). The active manipulation of an independent variable—clinical intervention—and the repeated measurement of relevant dependent variables are two pivotal features of single-subject methods. A causal relationship is recognized when the manipulation of an independent variable coincides with change in the dependent measure(s) at three different points in time. In multiple baseline designs, each participant must encounter at least two phases—baseline followed by intervention—with the shift to intervention phase being temporally staggered to allow for the change in dependent variables to present at different points in time to control for threats to internal validity.

The data from repeated measures of participant performance during baseline and intervention phases are graphed on an x-y plane to enable visual comparison, referred to as visual analysis, of pre- and post-intervention data. Covariation between participant exposure to an independent variable and a change in level, trend, or slope of dependent variables suggests a causal relationship. A change in trend indicates whether there is an increase or decrease in behavior. A change in slope indicates the strength of the trend, with steeper slopes indicating stronger trends. A change in level indicates the size of the

behavior change. Controlling for chance and confounds through replication of the covariation between the independent and dependent variables a minimum of three different times strengthens the inference of a causal relationship.

Participants and Setting

This study took place in two elementary schools with 350 and 500 students in the Northwestern United States. The students who were exposed to the intervention, as well as the teachers who delivered the intervention, were the study participants. The study focused on three teacher-student dyads. Teacher-1 was a white male with 11 years of teaching experience, who taught the 29 students in his class all day. Teacher-2 was a white female with 8 years of teaching experience, who taught the 27 students in her class all day. The student participants in the study were three white fourth-grade boys. None of the students were identified as having a disability.

In order to qualify for inclusion in this study, the students needed parent consent, personal assent, and to pass through the following multiple-gated screening procedure (Loeber, Dishion, & Patterson, 1984). First, the teachers and the school principals were asked to refer students who displayed high levels of disruptive behavior and low levels of academic engagement. Second, to corroborate the students having high levels of problem behavior, the teachers rated student problem behavior using the problem behaviors subscale of the Social Skills Improvement System (SSIS; see Appendix A, Gresham & Elliott, 2008). Third, to screen out dyads with relationships characterized as high quality, the teachers completed the Student-Teacher Relationship Scale (STRS; see Appendix E; Pianta, 2001. Fourth, to evaluate the function of each student's problem behavior, a functional behavioral assessment was conducted using the Functional Assessment

Checklist for Teachers and Staff (FACTS; see Appendix B; March et al., 2000). Finally, to verify the presence of problem behavior, pilot direct observations of student disruptive behavior and academic engaged time were made twice using the observation procedures detailed below. Student participant information is displayed in Table 1.

Table 1

Student Participants

Subject Information	Mike	Chris	Jeremy
Age (year.month)	9.11	10.8	10.4
Social Skills Improvement System			
Overall problem behavior[a]	66	85	86
Externalizing	Average	>Average	Average
Hyperactivity/inattention	Average	>Average	Average
Student-Teacher Relationship Scale[b]			
Conflict	47	84	72
Closeness	8	22	1
Overall	35	14	8
Functional Behavior Assessment (maintaining consequence)	PA, WA	PA, TA	PA, WA
Direct Behavior Observations[c]			
Disruptive	63	68	32
Interobserver agreement	.84	.91	.82
Engagement	63	38	48
Interobserver agreement	.89	.97	.95

Note. Participants were white male fourth grade students. >Average = above average; PA = peer attention; WA = work avoidance; TA = teacher attention; IOA = interobserver agreement.
[a]Social Skills Improvement System overall problem behavior scores reported as percentiles relative to normative sample. [b]Student-Teacher Relationship Scale scores reported as percentiles. [c]Direct behavior observation scores reported as average of two pilot observations.

Compared to the nationally representative sample of males ages 5 to 13 years, the teacher ratings on the SSIS placed Mike at the 66th percentile, Chris at the 85th percentile, and Jeremy at the 86th percentile for overall problem behavior, indicating worse overall problem behavior than 66%, 85%, and 86% of the sample, respectively. The SSIS disaggregates overall problem behavior into externalizing, bullying, hyperactivity/inattention, and internalizing subscales. For purposes of screening for inclusion in this study, the externalizing and hyperactivity/inattention subscales were considered. On the externalizing subscale, Mike was rated as average, Chris was rated as above average, and Jeremy was rated as average. On the hyperactivity/ inattention subscale, Mike was rated as average, Chris was rated as above average, and Jeremy was rated as average. The externalizing and hyperactivity/ inattention subscale rankings were less severe than the overall problem behavior ratings due to the exclusion of the bullying and internalizing subscales. In spite of the average ratings on the externalizing and hyperactivity/inattention subscales for Mike and Jeremy, all participants were retained at this stage based upon overall problem behavior rankings, as well as teacher and principal referral.

The teacher reports on the STRS identified the students as having low relationship quality with their teachers. Among the STRS sample of boys, the overall relationship quality scores ranked Mike at the 35th percentile, Chris at the 14th percentile, and Jeremy at the 8th percentile. The conflict subscale scores ranked Mike at the 47th percentile, Chris at the 84th percentile, and Jeremy at the 72nd percentile. The closeness subscale scores ranked Mike at the 8th percentile, Chris at the 22nd percentile, and Jeremy at the 1st

percentile. All participants were retained at this stage based upon low relationship quality.

Teacher reports on the FACTS suggested that the function of each student's problem behavior were mixed. The function of Mike's disruptive behavior was identified as gaining peer attention and work avoidance. The function of Chris' disruptive behavior was identified as gaining peer and teacher attention. The function of Jeremy's disruptive behavior was identified as gaining peer attention and escape of non-optimally challenging tasks. All participants were retained at this stage based upon escape of teacher attention not being a function of their behavior.

During the two pilot disruptive behavior observations, Mike was disruptive 43% of the observations on average, Chris was disruptive 68% of the observations on average, and Jeremy was disruptive 32% of the observations on average. During the two pilot academic engagement observations, Mike was engaged 63% of the observations on average, Chris was engaged 38% of the observations on average, and Jeremy was engaged 48% of the observations on average. All participants were retained at this stage based upon their moderate to high levels of disruptive behavior and moderate to low levels of engagement.

Measures

Direct observations of student behavior. Direct observations of student disruptive behavior and academic engagement were the dependent variables in this study. Disruptive behavior was the dependent variable of primary interest and was used to drive decisions about when to introduce each student to the intervention. Disruptive behavior refers to student behavior that interferes with the classroom-learning environment and

impedes instruction (Chafouleas, Riley-Tillman, & Christ, 2009). Disruptive behavior was operationally defined in this study as (a) conversing with others during instruction time; (b) aggravating others, i.e., making faces, touching or laughing at others, making noises or sounds vocally or otherwise, hitting desk, vocalizing disapproval with teacher or instruction, throwing or hitting objects; (c) paying attention to stimuli unrelated to instruction, i.e., looking at or playing with other objects or misusing instructional materials; (d) writing notes or drawing; (e) spitting or sucking on fingers; (f) getting out of seat without permission or wandering around; or (g) talking out, i.e., not raising hand for response (Lambert, Cartledge, Heward, & Lo, 2006).

Disruptive behavior was measured through direct observations using a partial interval recording system. This method involves the observer recording whether the target behavior occurs at *any* time during the interval. Partial interval recording estimates the proportion of intervals across the entire observation period that the targeted behavior occurs (Cooper, Heron, & Heward, 2007). An example Disruptive Behavior Recording Sheet is provided in Appendix D. Each observation period consisted of students being observed for 10 minutes, using 15-second intervals (e.g., 10-second observe, 5-second record). The observers used discrete in-ear headphones—in one ear—for auditory observation period cues. Percentage of observation intervals that the target behavior occurred was calculated by dividing the number of occurrence intervals by the total number of intervals, and multiplying by 100.

Academic engaged time (AET) refers to the total time that a student is engaged in instructional activities. This study used the procedures and operational definition from the

Systematic Screening for Behavioral Disorders (SSBD; Walker & Severson, 1990). The SSBD operationally defines AET as,

> [T]he student is appropriately engaged in working on assigned academic material that is geared to her/his ability and skill levels. While academically engaged, the student is (a) attending to the material and task, (b) making appropriate motor responses (e.g., writing, computing), (c) asking for assistance (where appropriate) in an acceptable manner, (d) interacting with the teacher or classmates about academic matters or, (e) listening to teacher instructions and directions" (p.65).

AET was measured using direct observations during class by recording total duration of AET using a stopwatch and was recorded on the SSBD AET Recording Form (see Appendix C). Percentage of observation period AET was calculated by dividing total duration of AET by the duration of observation session. Walker and Severson (1990) report that interobserver reliability estimates using the SSBD for AET have consistently ranged from 90-100%.

Quality of teacher-student relationships. Teacher-student relationship quality was assessed using the Student-Teacher Relationship Scale (STRS; see Appendix E; Pianta, 2001). The STRS is a 28-item measure of teacher perceptions of closeness, conflict, and student dependency in teacher-student relationships. The normative sample for the STRS consisted of 275 teachers reporting on their relationships with 1,535 students 4 to 8 years of age across a geographically diverse range of U.S. states. Exploratory factor analysis of the STRS items found a three-factor model demonstrated the best fit, accounting for 49% of the total variance. The 11-item closeness subscale explained 13% of the variance and assessed the extent to which a teacher perceives the

relationship as warm and open. The 12-item conflict subscale explained 30% of the variance and assesses the extent to which a teacher perceives the relationship as negative. The five-item dependency subscale explained 6% of the variance and assesses the extent to which a teacher perceives a student as being overly dependent upon the teacher. Internal consistency reliability for the total normative sample is reported as being high for the conflict (α = .92, *SEM* = 2.53) and closeness (α = .86, *SEM* = 2.33) subscales but not as high for the dependency subscale (α = .64, *SEM* = 2.12). The STRS is reported as having an adequate 4-week test-retest reliability ranging from .76 to .92.

In the current study, the intervention was theorized to produce the intended effect through increasing closeness and/or decreasing conflict. Thus, the closeness and conflict subscales were assessed individually. Dependency was omitted from the assessment of subscale examination. However, to get a picture of overall relationship quality, total relationship quality was assessed through examination of the three factors composite score**.**

Independent variable

The three-component intervention included (a) one-on-one teacher-student interaction, (b) teacher provided behavior specific process praise, and (c) teacher initiated opportunities for positive family-teacher communication.

One-on-one meeting. This component consisted of a weekly meeting in which the student and teacher completed a Goal Setting Worksheet (see Appendix F). The primary objective was to provide a structured activity that facilitates a warm, positive one-on-one interaction. Therefore, teaching goal setting and goal attainment was a distal secondary objective of this activity. As such, the goal setting activity aimed to facilitate a

warm positive teacher-student interaction, while also imparting goal setting skills—an important valuable lifelong skill not generally taught in schools. This part of the intervention consisted of weekly meetings that were less than 15 minutes each. The activity entailed the teacher and student completing the goal setting worksheet in which they set a student selected goal for the week and identified barriers and strategies for attainment. Each following week, the teacher and student assessed whether or not the student attained the goal from the prior week in addition to completing a new worksheet. Since the underlying intent was to provide positive one-on-one interactions that foster a warm and caring teacher-student bond, the goals were to be student-centered and thus could be devoid of academic and behavioral foci. Further, the student had discretion whether he or the teacher filled out the goal setting worksheet.

Process praise. This component was comprised of the teacher selecting behaviors s/he would like to praise the child about during the following weekly meeting. To do so, the teacher completed the Praise Worksheet (see Appendix G). Step one entailed the teacher identifying three qualities that the student possessed. Step two entailed the teacher identifying school-based behaviors and the integral processes that s/he had seen the student perform as evidence of the qualities. Step three entailed the teacher developing and recording three process praise statements—one statement for each identified behavior. Step four entailed the teacher recording the number of times that s/he provided the student the praise during the one-on-on meeting using tally marks.

Family-teacher communication. This component consisted of systematic regular positive communication initiated by the teacher. The primary objective of this step was to facilitate a trusting and respectful atmosphere between the family and the teacher.

Communication was to be guided by Voltz's (1994) compilation of five strategies that promote development of trust and respect. These strategies are to (a) use formal titles unless instructed otherwise, (b) use a respectful and polite tone, (c) use everyday language avoiding educational jargon or acronyms, (d) listen to parents, and (e) provide clear, straight answers without dodging difficult issues.

Each week the teacher made what Love (1996) calls good news calls to the families of the identified students. This contact with the family was to promote dialogue that emphasized child strengths and elicited family input. To emphasize the student strengths, the teachers were asked to consult completed process praise worksheets to identify positive behaviors that the child exhibited during the week. It was particularly important that the teacher not instigate conversation that addressed student problems in school, whether academic or behavioral. Another aspect of these phone calls was to open up the opportunity for two-way communication. Therefore, the teachers were encouraged to ask open-ended questions. In the case of no answer, the teachers were asked to leave a message detailing the positive behaviors that the teacher had chosen, any classroom updates, and an invitation for the family member to return the call for any reason. Voice messages can be a useful form of regular communication, especially among individuals who have conflicting time constraints regarding the use of telephones (Cameron & Lee, 1997), and they have been documented as a feasible method of communication between teachers and families (Reid et al., 1999). Finally, to track phone communication and for teacher consultation for later communication, the teachers were asked to make notes about the communication on the Communication Worksheet (see Appendix H).

Teacher training. The teachers were trained on the delivery of the intervention by the researcher during one 60-minute session the week prior to introducing the intervention to their student. Training focused on providing teachers with the rationale for each component and instruction on implementing the activities. The teachers were asked to read through a two-page intervention overview that details the rationale for each component (see Appendix I). The trainer also contacted the teachers to assess their understanding and provided ongoing coaching throughout the intervention phase as needed.

Training for the one-on-one meeting activity involved the teachers being introduced to the concept of displaying teacher acceptance during these meetings through review of the acceptance gradient scale and the relevant definitions. This training also involved the teachers being led through an example of the worksheet. The trainer and each teacher conducted a role-play of the goal setting activity. Teacher competency in understanding acceptance of the participating students was demonstrated by their ability to correctly arrange an unorganized list of definitions of the levels of acceptance.

Training for the process praise component involved the teachers being led through an example of the worksheet. At each of the four steps, examples and non-examples were provided and discussed. Teacher competency was demonstrated when the teachers independently completed the worksheet culminating with the creation of three behavior-specific process praise statements.

Training for the parent communication component involved the teachers being presented with a list of strategies to employ when working with families. This training also involved the teachers being led through an example of the worksheet. The trainer and

each teacher role-played a scripted good news call. The teachers were provided with an example of a good news voicemail message. Competency was demonstrated when the teachers were able to create a good news message script detailing the positive behaviors that the teacher had chosen, any classroom updates, and an invitation for the family member to return the call for any reason.

Procedure

Data collection. Direct observations of student behaviors were conducted twice weekly—repeated on the same days each week—in each student's classroom by two trained graduate students across baseline and intervention phases. Each observation was conducted during math class for each participant throughout the study. The primary investigator and the trained observers conducted two observations for each teacher-student dyad to pilot the observation system prior to beginning data collection. The piloting of the observations provided additional training for the observers in situ as well as provided familiarization for student participants to the novelty of the addition of an outside observer in their classroom.

Observer training for academic engaged time followed the procedures specified in the user manual for the SSBD (Walker & Severson, 2001). The procedures entailed the trainee reading the SSBD observer training manual on AET and practicing behavior observations using video vignettes. Conceptual mastery of the material was demonstrated when the trainee was able to accurately (100%) discriminate examples from non-examples on a 15-item quiz. Observational mastery was demonstrated when the trainee was able to code total percentage of displayed behavior, within 5% discrepancy, while viewing several 3-minute observational video vignettes.

The training procedures for observations of disruptive behavior used the same video vignettes as those used to train observers for AET. The graduate student observers and the researcher independently observed the video vignettes and rated student disruptive behavior using the partial interval recording system. Training continued until observer mastery was demonstrated when the primary investigator and the observers agreed upon the percentage of interval occurrence within 5% discrepancy.

Each week the observers collected copies of all the completed worksheets and coded them using the fidelity coding forms. The researcher administered the paper-pencil STRS survey to the participant teachers during the baseline phase and again at the end of the study. The researcher also administered the social validity surveys at the end of the study.

Interobserver agreement. During 31% of the sessions, an additional trained graduate student and/or the researcher simultaneously observed participant students. The secondary observer's ratings of behavior were compared to the primary observer's in the following manner to estimate agreement. In regard to disruptive behavior ratings, interobserver agreement was assessed using interval agreement (Kennedy, 2005). Interval agreement compares observer agreement interval by interval. Interval agreement is computed by coding each interval as either agreement or disagreement. Total agreement intervals are divided by agreements plus disagreements and multiplying by 100(e.g., $\frac{A}{A+D} \cdot 100$; where *A*=agreements and *D*= disagreements; Kennedy, 2005). Academic engaged time interobserver agreement was assessed using percent agreement. Percent agreement is a commonly used measure of observer consistency (Kratochwill et al., 2010) and is calculated by dividing the smaller observed percentage by the larger

observed percentage and multiplying by 100 (e.g., $\frac{S}{L} \cdot 100$; where *S* = the smaller percentage of behavior and *L* = the larger percentage of behavior; Kennedy, 2005). In accordance with Kennedy's (2005) guidelines, in the event that total agreement fell below 85%, the observers received additional training.

Fidelity of implementation. Documentation of the intervention being delivered as intended can increase the robustness of the inference that the change in the dependent variable is caused by the independent variable (Kennedy, 2005). Treatment fidelity is a multidimensional construct and a more thorough picture of fidelity is gained when multiple features are examined (Schulte, Easton, & Parker, 2009). In this study, adherence, dose, and quality of delivery are the dimensions of integrity that were assessed (for materials, see Appendix J).

To assess teacher delivery adherence to the one-on-one goal setting component of the intervention, the number of steps completed on the Goal Setting Worksheet were tracked through appraisal of the attempted student worksheets. Estimates of the percentage of completeness were computed by dividing the count of completed steps by five—the number of total steps—and multiplying by 100 ($e.g., \frac{x}{5} \cdot 100$). Estimates of intervention dosage were computed from the length of time the dyad spent involved in the activity as recorded on the student worksheet. Finally, an audio recording of each weekly one-on-one activity was assessed for teacher acceptance of the student as a measure of delivery quality using an item adapted from Motivational Interviewing Skills Code (MISC; Miller, Moyers, Ernst, & Amrhein, 2003). Teacher acceptance—a measure of the extent to which the teacher is able to work with the student as an individual and

convey unconditional positive regard for the student—was rated by the researcher using a seven-point Likert-type scale (1 = *low acceptance* and 7 = *high acceptance*).

To assess teacher delivery adherence to the process praise component, the completed praise worksheets were examined for degree of completeness. Estimates of percent completeness were computed by dividing the count of completed steps by 9—the number of total steps—and multiplying by 100 (e.g., $\frac{x}{9} \cdot 100$). To assess quality of the three process praise statements, the statements were dichotomously coded as process praise or not. Finally, process praise dosage was coded using the audio recordings dichotomously as delivered or not. To assess teacher delivery adherence to the communication component, the communication worksheets were examined.

A completed worksheet provided a measure of weekly communication adherence. Data depicting whether the communication was a conversation or a message were coded dichotomously as further evidence of adherence. The start and stop times from each phone call provided estimates of family-teacher communication dosage. The content of the teacher-made notes was coded as conveying a positive, neutral, or negative message, as a self-report estimate of communication quality.

Social validity. Teacher ratings of acceptability of the intervention were collected using the Intervention Rating Profile-15 (see Appendix K; IRP-15; Martins, Witt, Elliott, & Darveaux, 1985). The IRP-15 is a 15-item survey that assesses a unitary factor of general acceptability—with factor loading ratings from .82 to .95—of a given intervention. The survey consists of 15 Likert-type scale items (1 = *strongly disagree*, 6 = *strongly agree*). The composite scores can range from 15-90, with higher scores representing higher levels of acceptability. Scores above 52.5 are considered acceptable

(Carter, 2010). The internal consistency reliability of the unitary factor of general acceptability using the instrument was .98 (Martins et al., 1985). In addition, teachers were surveyed using 11 researcher developed, open-ended questions to allow the teachers to provide more in-depth responses about their perceptions of the intervention.

Data analysis. All direct observation data were entered and graphed weekly using Microsoft Excel to allow ongoing visual analysis. The X-axis of the graphs represents time across the study and the Y-axis of the graphs represents observed behaviors displayed as a percentage of each observation session. The graphs produced were examined using visual analysis as explained in Kennedy (2005). Ongoing visual analyses were conducted during the baseline phase to ascertain evidence of adequate data to warrant a shift to intervention phase for each participant. Upon conclusion of the study, visual analysis was used to examine the data for patterns depicting changes in the dependent variables that covary with exposure to the intervention. To determine a functional relationship between the independent and dependent variable, baseline and intervention phases are examined for (a) line of best fit, (b) immediacy of effect when independent variable is implemented, (c) variability of performance, (d) proportion of data points in adjacent phases that overlap, (e) magnitude of changes, and (f) consistency of data patterns. Proportion of data points that overlap in adjacent phases was analyzed using Percentage of Non-overlapping Data (PND; Scruggs, Mastropieri, & Castro, 1987). This PND method requires (a) identifying the most favorable data point in the baseline phase, (b) counting all data points that are equal to or more favorable in the adjacent intervention phase, and (c) dividing this count by the total number of data points in the intervention phase. Scruggs and colleagues suggest that PND below 50% reflects

unreliable effects, PND from 50%-70% reflect questionable effects, PND from 70%-90% reflect effectiveness, and PND above 90% reflects high effectiveness.

The mean rates of conflict, caring, and dependence constructs from the STRS were computed to examine pre- and post-intervention differences across participants. Finally, mean levels of fidelity of implementation and social validity data were examined for baseline and intervention phase differences across participants.

CHAPTER IV

RESULTS

Fidelity of Implementation

Intervention fidelity data showed high levels of teacher adherence to the core features of the goal setting and weekly communication activities. However, one teacher had low levels of adherence to the core features of the process praise component.

Goal setting. Teacher-1 and Mike met weekly seven times across their 7-week intervention phase and completed 83% of the steps involved in conducting the goal setting activities. They met an average of 11 minutes each week. Teacher-2 and Chris met weekly four times across their 4-week intervention phase and completed 85% of the steps involved in conducting the goal setting activities. They met an average of 11 minutes each week. Teacher-2 and Jeremy met three times across their 3-week intervention phase and completed 87% of the steps involved in conducting the goal setting activities. They met an average of 9 minutes each week.

The audio recordings of the goal setting meetings indicated that the teachers' level of student acceptance during the goal setting meetings was coded as 6.55 on average (1 = *low acceptance* and 7 = *high acceptance*). The average level of acceptance in the five recordings of Teacher-1 and Mike's meetings was coded as 6.40 with a range from six to seven. The average level of acceptance in the four recordings of Teacher-2 and Chris' meetings was coded as 6.25 with a range from five to seven. The average level of acceptance in the three recordings of Teacher-2 and Jeremy's meetings was coded as 6.4 with a range from six to seven.

Process praise. Teacher-1 completed 57% of the steps involved for delivering process praise for Mike across the 7-week intervention phase. Specifically, Teacher-1 did not complete worksheets during intervention phase weeks two, three, and four. The four worksheets that were completed were completed at 100%. Teacher-1 provided Mike each of the process praise statements one time each during each weekly meeting that a worksheet was completed. Forty-two percent of the praise statements were process praise (e.g., "I can tell that when you're engaged by a problem, you can focus to find a solution. Good job.").

Teacher-2 completed 100% of the steps involved for delivering process praise for Chris across the 4-week intervention phase. Teacher-2 provided Chris each of the process praise statements one time each during each weekly meeting. Sixty-seven percent of the praise statements were process praise (e.g., "I know it took a lot of effort for you to have such a positive attitude on Friday when the other students were all talking about the field trip.").

Teacher-2 completed 100% of the steps involved in creating process praise for Jeremy across the 3-week intervention phase. Teacher-2 provided Jeremy each of the process praise statements one time each during each weekly meeting. Seventy-seven percent of the praise statements were process praise (e.g., "I noticed you stayed focused during quiet work time, way to go!").

Communication. Teacher-1 made 71% of the weekly phone calls to Mike's family across the 7-week intervention phase with one call resulting in leaving a message. The average duration of the calls was 6.5 minutes. All (100%) of the notes for communication with Mike's family were coded as positive. For example, "We talked

about [Mike] wanting to focus on reading but finding it difficult because it's too loud. He came up with the strategy on his own to ask to find a quieter place to do his independent reading." Teacher-2 made 100% of the weekly phone calls to Chris' family across the 4-week intervention phase, with three calls resulting in leaving a message. The duration of the completed call was 6 minutes and the notes were coded as positive. For example: "Told [Chris' mom] about [his] attentiveness during speeches the previous week." Teacher-2 made 100% of the weekly phone calls to Jeremy's family with all of the calls resulting in leaving a message. All of the notes for voice mail messages left for Jeremy's family were coded as positive. For example: "Just calling to let you know how focused [Jeremy] has been in class on the Oregon Trail simulation activity. He has gotten the maximum number of points and has been very helpful to his team."

Direct Observations of Student Behavior

Interobserver agreement. Interobserver agreement (IOA) was assessed for the student behavior observations during 31% of the observation sessions. Average disruptive behavior interval agreement for Mike was 87%; individual session agreement was 88%, 73%, 80%, 98%, 94%, and 90%, respectively. Average disruptive behavior interval agreement for Chris was 94%; individual session agreement was 80%, 98%, 98%, 97%, and 97%, respectively. Average disruptive behavior interval agreement for Jeremy was 97%; individual session agreement was 87%, 98%, 98%, 98%, 95%, and 100%, respectively. Average AET percent agreement for Mike was 83%; individual session agreement was 80%, 50%, 93%, 85%, 96%, and 94%, respectively. Average AET percent agreement for Chris was 98%; individual session agreement was 99%, 97%, 100%, 98%, and 98%, respectively. Average AET percent agreement for Jeremy was

96%; individual session agreement was 81%, 99%, 97%, 100%, 98%, and 100%, respectively. The average estimates of IOA fell within or above the acceptable range of 80-90% (Hartman, Barrios, & Wood, 2004).

Disruptive behavior. Results for disruptive behavior are provided in Figure 2. During the baseline phase, Mike was disruptive an average of 34% of intervals, with a range from 33% to 40%. Baseline data for Mike showed low variability with a slight upward trend. For Chris, disruptive behavior during baseline averaged 26% of intervals, with a range from 5% to 52%. Baseline data for Chris showed variability with a slight downward trend, but the last four baseline data points for Chris showed an upward trend starting at 5% and increasing to 44%. Jeremy was disruptive an average of 14% of intervals during baseline, with a range from 5% to 23%. Baseline data for Jeremy initially showed low variability with a very slight downward trend, but the last 50% of the data points in this phase showed an upward trend starting at 5% and increasing to 17%.

Disruptive behavior was the dependent variable used to determine when each student would be shifted to intervention phase based on visual analysis identifying stability and desirable trend in the data. As shown in Figure 2, Mike started the intervention after observation session five, Chris started the intervention after observation session 13, and Jeremy started the intervention after observation session 16.

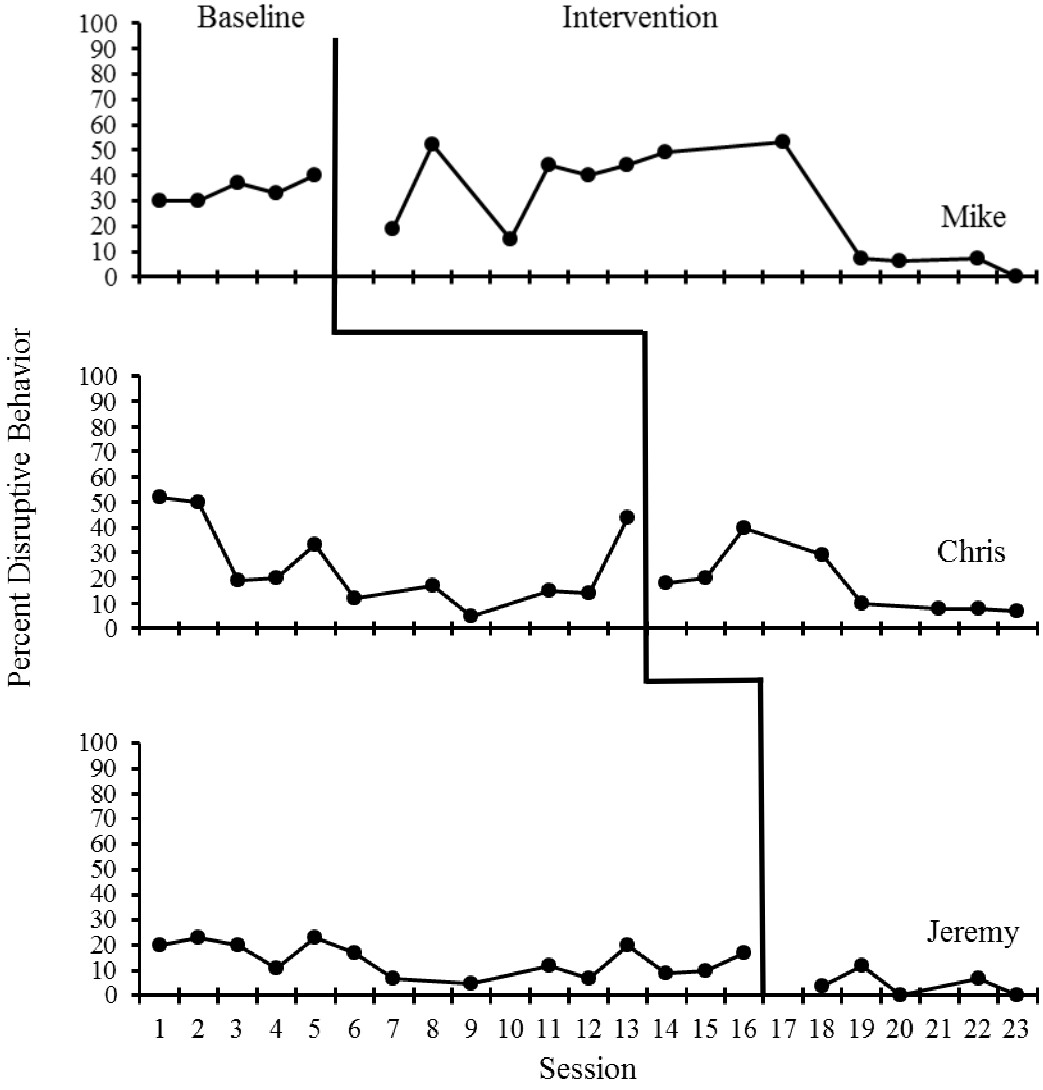


Figure 2. Student disruptive behaviors.

Overall, implementation of the intervention package resulted in an overall reduction in the average percentage of disruptive intervals for all students. For Mike, average disruptive behavior decreased to 28% of intervals (range from 7% to 53%). During the intervention phase, 50% of Mike's data points were below the lowest data point during baseline. Percent non-overlapping data for Mike was .50. Mike's data during this phase showed a change to a downward trend. For Chris, average disruptive behavior decreased to 18% of intervals, with a range from 7% to 40%. During the intervention

phase, 50% of the data points during the intervention phase fell within 5% of the lowest baseline data point, and all data were below the highest baseline data point. Percent non-overlapping data for Chris was 0. Chris' data during this phase showed a change to a slightly steeper downward trend. For Jeremy, average disruptive behavior decreased to 5% with a range from 0% to 12%. Sixty percent of Jeremy's intervention data points fell below the lowest baseline data point. Percent non-overlapping data for Jeremy was .60. Jeremy's data during this phase showed a change to a steeper downward trend.

Academic engaged time. Results for AET are provided in Figure 3. Although data on disruptive behavior was used as the primary indicator in this study, student AET was also collected to explore the relationship between exposure to the intervention and engagement. During the baseline phase, Mike was academically engaged an average of 49% of the observation sessions, with a range from 28% to 76% indicating high variability. Mike's data during this phase showed a downward trend. During the baseline phase, Chris was academically engaged an average of 76%, with a range from 45% to 99% indicating high variability. Chris' data during this phase showed a slight downward trend. During the baseline phase, Jeremy was academically engaged an average of 71%, with a range from 40% to 94% indicating high variability. Data during this phase showed a slight upward trend.

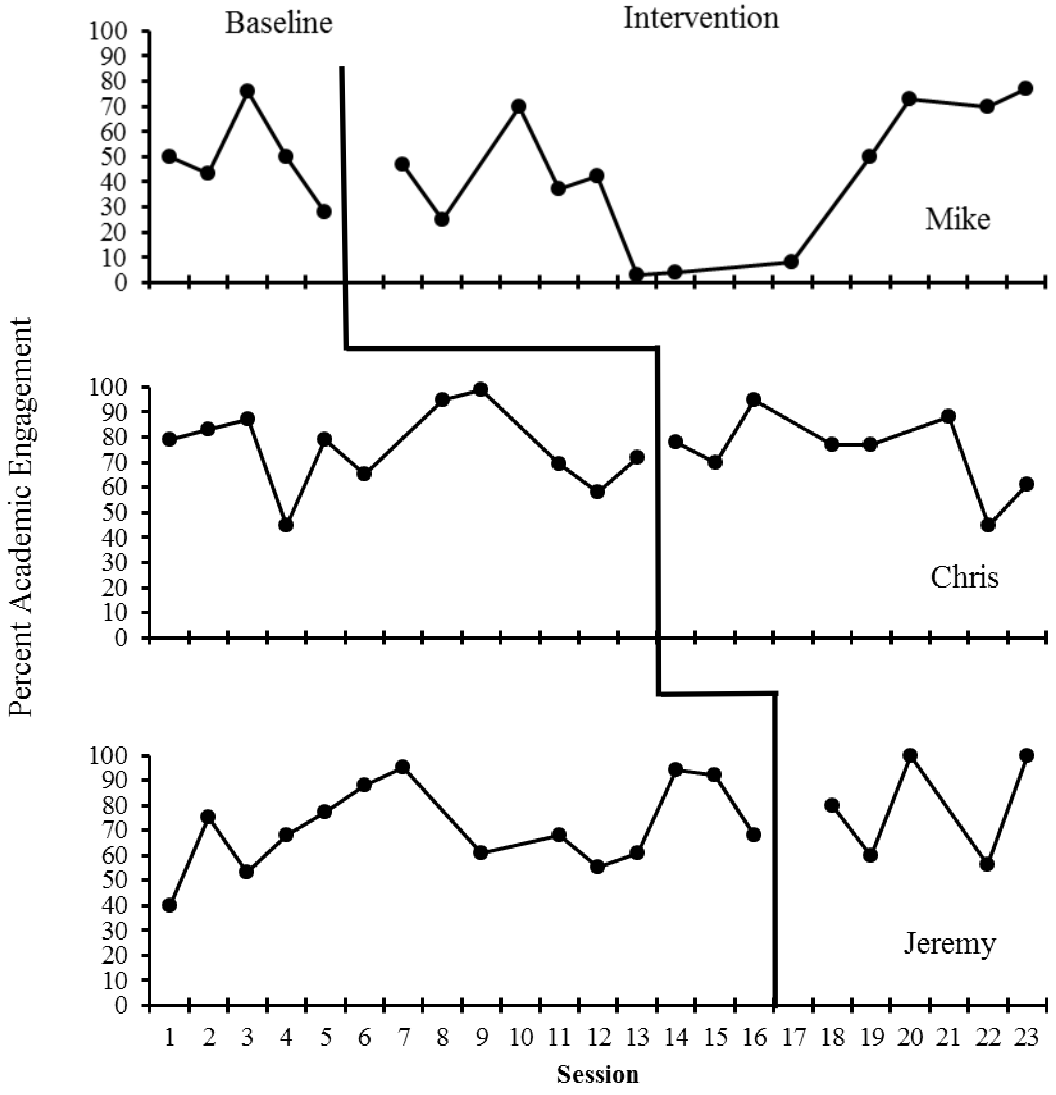


Figure 3. Student academic engagement.

Exposure to the intervention package did not result in an increase in AET for all of the students. For Mike, average AET decreased to 42%, with a range from 3% to 77%. Mike's intervention phase data showed high variability with a change to an upward trend. For Chris, average AET decreased to 74%, with a range from 45% to 95%. Chris' intervention phase data showed high variability with a change to a steeper downward trend. For Jeremy, average AET increased to 79%, with a range from 56% to 100%.

Jeremy's intervention phase data showed high variability with a change to a slightly steeper upward trend.

Quality of Teacher-Student Relationships

Table 2 and Figure 4 summarize and display teacher ratings on the STRS. Results indicated that teachers perceived an overall improvement in relationship quality with the students across the study. Pianta (2001) reports the raw score mean to be 112.23 and standard deviation to be 11.03 for overall relationship quality among the STRS normative sample for boys. In regard to Mike, Teacher-1 reported a raw score increase in overall relationship quality from 109 at time one to 114 at time two. This represents a .45 standard deviation increase from .09 of a standard deviation below the mean to .16 of a standard deviation above the mean. This correlates with an increase from 35th to 45th percentile relative to the normative sample. That is, at time one, Teacher-1/Mike's relationship quality was equal to or better than 35% of the ratings reported in the STRS normative sample. At time two, Teacher-1/Mike's relationship quality was equal to or better than 45% of the ratings reported in the STRS normative sample. Teacher-1 experienced a decrease from 47th to 45th percentile in conflict and an increase from 8th to 20th percentile in closeness with Mike.

Teacher-2 worked with both Chris and Jeremy. In regard to Chris, Teacher-2 reported a raw score increase in overall relationship quality from 93 at time one to 102 at time two. This represents a .82 standard deviation increase from 1.70 standard deviations below the mean to .93 of a standard deviation below the mean and correlates with an increase from 14th to 25th percentile relative to the normative sample. More specifically, Teacher-2 experienced an increase from 22nd to 50th percentile in closeness with Chris. In

regard to Jeremy, Teacher-2 reported a raw score increase in overall relationship quality from 85 at time one to 96 at time two. This represents a 1.00 standard deviation increase from 2.47 standard deviations below the mean to 1.47 standard deviations below the mean and correlates with an increase from 8th to 17th percentile relative to the normative sample. More specifically, Teacher-2 experienced a decrease from 72nd to 45th percentile in conflict with Jeremy.

Table 2

Relationship Quality Percentile Scores for Boys

Teacher (Student)	Conflict		Closeness		Total	
	T1	T2	T1	T2	T1	T2
1(Mike)	47	45	8	20	35	45
2(Chris)	84	84	22	50	14	25
2(Jeremy)	72	45	1	1	8	17

Note. T1 = pretest. T2 = posttest.

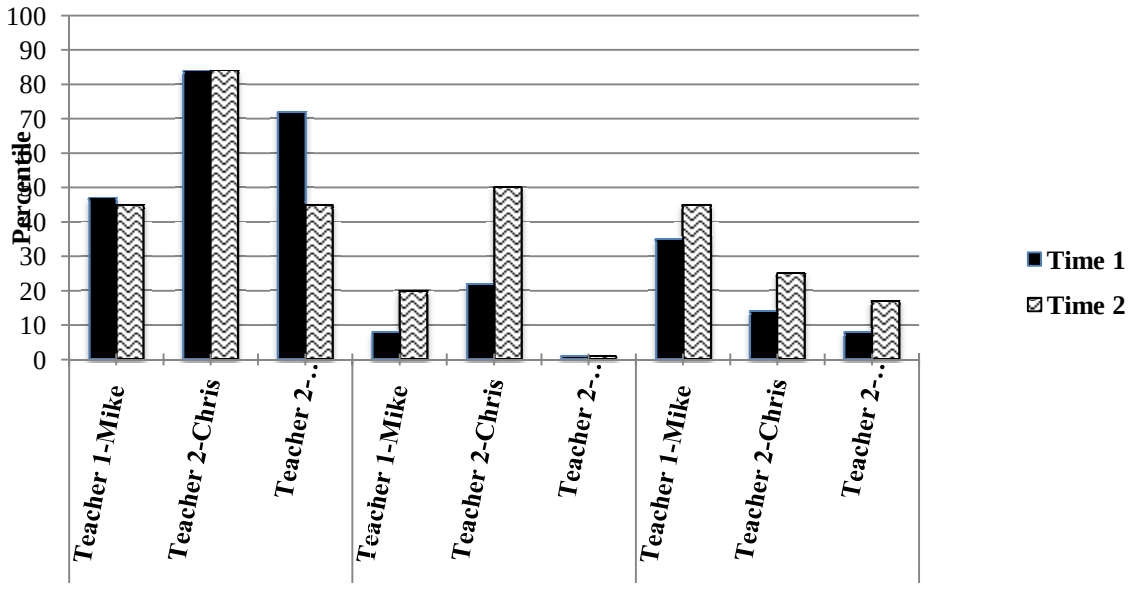


Figure 4. Relationship quality. Pretest and posttest STRS percentile scores for boys**.**

Social Validity

Teacher ratings on the IRP-15 were used to evaluate social validity. According to Carter (2010), scores above 52.50 are considered acceptable. Data from the IRP-15 fell above the lower limit for adequate acceptability across all participants. Figure 5 displays the individual item teacher ratings on the IRP-15 (1 = *strongly disagree*, 6 = *strongly agree*). The acceptability rating from Teacher-1 in regard to Mike was 69 with an item average of 4.6, ranging from 4 to 6. The acceptability rating from Teacher-2 in regard to Chris was 65 with an item average of 4.3, ranging from 3 to 6. The acceptability rating from Teacher-2 in regard to Jeremy was 69 with an item average of 4.6, ranging from 3 to 6.

The teachers strongly agreed, agreed, or somewhat agreed that (a) the intervention was acceptable, (b) most teachers would find the intervention appropriate, (c) they would recommend the intervention to other teachers, (d) student behavior was severe enough to warrant the intervention, (e) they would be willing to use the intervention in their classroom, (f) the intervention would not result in negative side effects, (g) the intervention would be appropriate for a variety of children, (h) the intervention was a fair way to handle behavior, (i) they liked the procedures used in the intervention, and (j) it was beneficial to the students. The teachers unanimously strongly agreed, in regard to all students, that the intervention would not result in negative side effects. They also unanimously agreed, in regard to all students, that (a) the intervention would be acceptable, (b) they would suggest the intervention to other teachers, and (c) they liked the procedures of the intervention. The teachers unanimously somewhat agreed, in regard to all students, that most teachers would find the intervention to be appropriate for

problem behaviors. There was disparity between responses on 10 of the 15 items. A two-point disparity occurring on two items marked the largest discrepancy. In the first instance, Teacher-1 agreed that the intervention was reasonable for the child's behavior, while Teacher-2 neither disagreed nor agreed in regard to Chris and agreed in regard to Jeremy. In the second instance, Teacher-1 agreed that the intervention was a good way to handle the child's behavior, while Teacher-2 neither disagreed nor agreed in regard to Chris and somewhat agreed in regard to Jeremy.

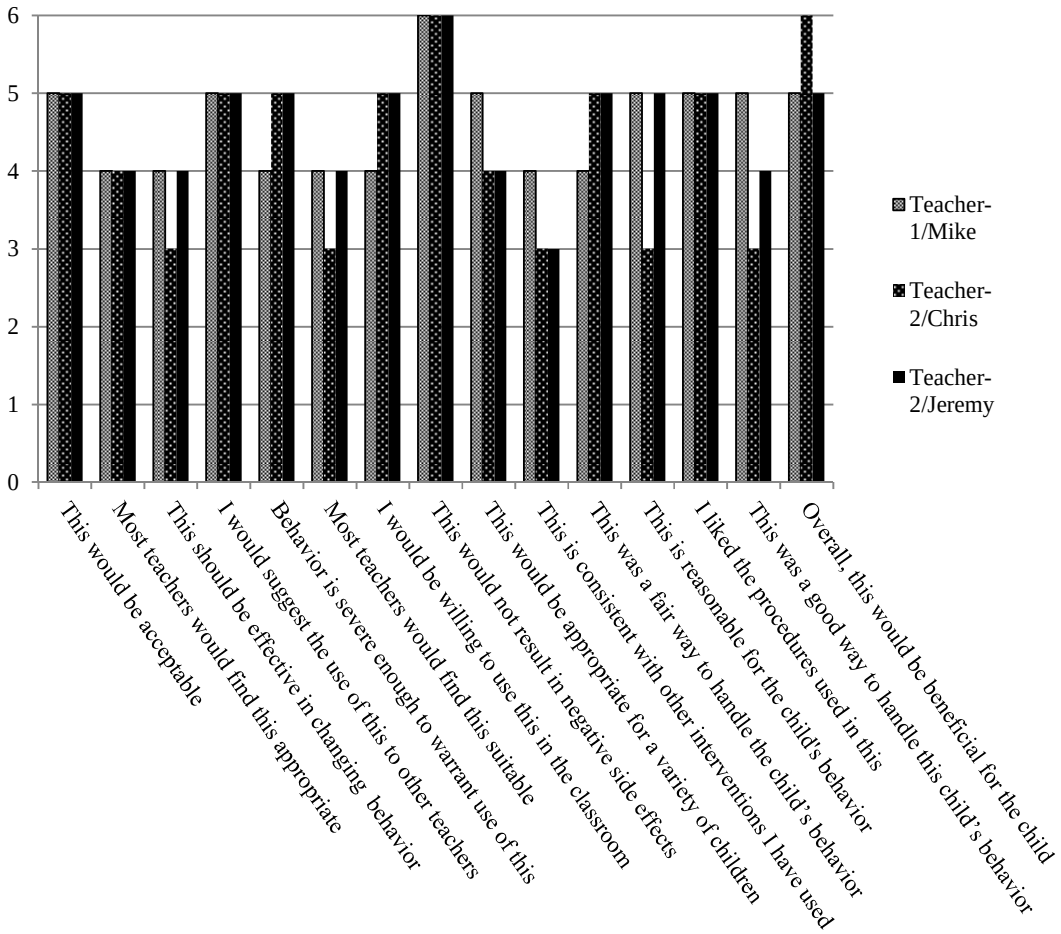


Figure 5. IRP-15. 1 = *strongly disagree*, 6 = *strongly agree*. Composite acceptability rating for Teacher-1/Mike = 69, Teacher-2/Chris = 65, and Teacher-2/Jeremy = 69.

Teacher responses to the open-ended social validity questions also suggested their

endorsement of the intervention. Specifically, they indicated meeting with the students to be valuable for them and the students. For example, in response to the question, *What do you feel was the most valuable aspect of meeting with the student?*, Teacher-1 stated, "I think that focus on positive goal setting changed the way I look at and relate to [Mike], and hopefully, to other underachieving students as well. I could still give him a hard stare if he did something out of line, but I was also more generous with praise for even little small accomplishments (like paying attention)." Teacher-1 also stated, "I started (almost without thinking about it) giving [Mike] more praise in the classroom. I also use less corrective or negative language with him." Another example is Teacher-2 reporting, "After the first week [Chris] asked for the time together," in response to the question, *Did the student enjoy meeting with you?*

CHAPTER V

DISCUSSION

Students with high levels of externalizing behavior are likely to experience a variety of negative outcomes (McLeod & Kaiser, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). In addition, they struggle to initiate and maintain positive social relationships (Birch & Ladd, 1998; Gresham & MacMillan, 1997; Murray & Murray, 2004) and perform appropriate academic tasks (McLeod & Kaiser, 2004; Reid et al., 2004). The current study tested the effects of an intervention designed to respond to these challenges by providing a structured student activity aimed at providing weekly opportunities to engage in a positive social relationships. The intent was to improve teacher-student relationships through engaging in positive interactions and, indirectly, to increase student functioning at school. Specifically, this study examined the effects of a packaged intervention that targeted increased positive one-on-one time, praise, and teacher-parent contact among students who display pervasive problem behavior. The intervention components were based on prior literature showing that (a) caring teacher-student relationships are correlated with positive emotional, behavioral, cognitive, and academic adjustment (O'Connor & McCartney, 2007; O'Connor et al., 2011; Tsai & Cheney, 2012); (b) praise can increase target behaviors (Andrews & Kozma, 1990; Sutherland et al., 2000) and, when provided correctly, can positively affect children's reactions to failure (Kamins & Dweck, 1999; Mueller & Dweck, 1998); and (c) there is evidence of a causal relationship between family-school collaboration and student behaviors (Cox, 2005). Results of the intervention indicated that it had the intended effects on some, but not all of the targeted outcomes. Moreover, the strength of these

effects seemed to vary according to teacher-student dyad, the length of time students were exposed to the intervention, and fidelity of implementation. Although the small scale of the study prohibits making any major claims about how these activities affected teacher-student relationships, descriptive teacher relationship ratings prior to and following the intervention are encouraging because they suggest that the intervention may have increased relationship quality. The findings from the social validity data, while also limited by the small scale of the study, are encouraging because they suggest that the teachers found the intervention to be beneficial and feasible.

Disruptive Behavior

As predicted, the intervention appeared to have a positive effect on reducing disruptive behaviors among the participating students. Specifically, the participants displayed a decrease in average disruptive behavior from the baseline phase to the intervention phase. This result provides additional support for the importance of supportive teacher-student relationships generally and for the three intervention components specifically. Moreover, the promising finding of a negative relationship between relationship quality and disruptive behavior is consistent with prior negative correlational findings linking poor teacher-student relationship quality with high levels of externalizing behavior problems (Baker, Grant, & Morlock, 2008; Hughes, Cavell, & Jackson, 1999; O'Connor et al., 2011; Wu, Hughes, & Kwok, 2010).

In spite of the promise that this intervention showed in decreasing disruptive behavior, it should be noted that, as can be seen in Figure 2, there was a very high degree of overlap between baseline and intervention phases for all of the participants. Overlap is one dimension of visual analysis the can be an indicator of the amount of change between

phases or level of effectiveness of an intervention. The high degree of overlap indicates that there was a small amount of change between phases. In fact, according to the PND criteria suggested by Scruggs et al. (1987) the effect of the intervention on disruptive behavior is unreliable. Yet, as Parker and Hagan-Burke (2007) note, in single case research successful performance can be defined as "practically important change" (p. 640). In light of high levels of problem behavior being correlated with academic, emotional, and social adjustment difficulties (McLeod & Kaiser, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004), as well as the impact of student externalizing behaviors on teacher stress (Abel & Sewell, 1999; Burke & Greenglass, 1993), it can be argued that the marginal decreases in student problem behavior evidenced in this study were of practical utility. Therefore, developing further understanding about the potential benefits of this intervention seems important, particularly since it is relatively easy to implement and does not require extensive time commitments on the part of teachers.

The effects of the intervention may have been more pronounced had (a) the students been exposed to the intervention for a longer period of time, because increased exposure to the intervention activities would potentially have additive beneficial effects on students' relationships with teachers and (b) had Jeremy, the third student, had higher levels of disruptive behavior during baseline. The first speculation is supported by O'Connor et al.'s (2011) finding demonstrating that students who have a stable, positive relationship trajectory have very low levels of externalizing behaviors, while children who have a poor but improving relationship trajectory have higher levels of problem behaviors. Moreover, some evidence for additive benefits are evidenced in the display of disruptive behavior in the last four data points for Mike and Chris. For both of these

students, the last four data points represent the lowest, least variable consecutive series of disruptive behavior. And for both, there was latency in the observed behavior reduction relative to the introduction of the intervention. Mike and Chris received exposure to the intervention for the longest duration—7 and 4 weeks, respectively. Jeremy demonstrated a less visually dramatic decrease in average disruptive behavior. However, Jeremy received the intervention for only 3 weeks, and a more dramatic decrease was impeded by his low level of disruptive behavior during baseline. Thus, in future studies it would be interesting to examine how duration of intervention exposure to the three intervention components studied here affects externalizing behavior, and it would be important to exclude participants with low disruptive behavior at baseline.

Within the multi-tiered system of support framework (Sugai & Horner, 2009), this intervention targets students on the secondary level, that is, students who are unresponsive to general interventions and in need of more intensive interventions. This intervention aims to facilitate a warm, caring relationship between teachers and students who need secondary supports as a method of improving the students' school experience, so that they no longer need more intensive secondary supports. However, secondary supports are costly in that they are more intensive and thus require additional staff time. Future studies that examine this intervention but that are afforded more time to include extended intervention duration would also provide the ability to assess whether the effects of the intervention would reach a point of diminished returns for disruptive behavior. This would allow for the addition of a maintenance phase consisting of fewer intervention activities. It would be interesting to examine whether the benefits realized by

this intervention could be maintained through exposure to a pared-down version of the intervention requiring less teacher time commitment.

Interestingly, for Mike and Chris the most dramatic decrease in disruptive behavior occurred simultaneously, in spite of being introduced to the intervention at different points in time. Confounding variables can largely be ruled out due to the students receiving the intervention in vastly different contexts—they were in separate classes, attended different schools, and received the intervention from different teachers. The observed decrease coincided with the end of the school year, which may be considered a potential confounding variable. It may be rationally argued that this can also be ruled out as a confound because, as Gion, McIntosh, and Horner (in press) note in their report detailing the patterns of office discipline referrals, rates of referral among elementary students remain relatively stable with no significant drop at the end of the school year for both minor and major behavior infractions.

One explanation why the decrease in disruptive behavior displayed by Mike was delayed longer than it was for Chris may be related to the lower level of the process praise component implementation fidelity practiced by Mike's teacher. Mike's teacher did not participate in the process praise activity during intervention phase weeks two through four. Without the full dosage of this component of the intervention Mike's response to may have been delayed. Thus, if Mike had received the full dosage of the process praise component, he may have displayed a decrease in disruptive behavior sooner.

Academic Engagement

Unexpectedly, the current study did not find the intervention to have the intended effects on student academic engagement. It was expected that the students would display an increase in level of engagement and/or a decrease in variability in response to the intervention components. Yet, the participating students did not uniformly display improved engagement, thus conflicting with previous correlational evidence that has shown a significant positive association between teacher-student relationships and academic engagement (Wu, Hughes, & Kwok, 2010).

The data showed mixed student behavior patterns in regard to academic engagement. Mike displayed a slight decrease in average academic engagement from baseline to intervention phase. This decrease in engagement was largely driven by three consecutive observation sessions during the intervention in which Mike was engaged 8% or less of the time. It should be noted that these data points were 20% or more below the lowest data point in the baseline phase. This low level of engagement may have been influenced by confounding factors beyond the control of the study, such as family trouble at home, lack of sleep, or dietary complications. Chris also displayed a slight decrease in average academic engagement from baseline to intervention phase. Alternatively, Jeremy displayed an increase in engagement from baseline to intervention phase. The highest level of engagement displayed by Jeremy during baseline was 95%, while during intervention Jeremy displayed 100% engagement twice. However, all of the average changes on engagement across phases are very minimal, and the high level of variability in the data makes it hard to discern a predictable pattern.

Interestingly, this study's lack of expected findings in regard to academic engagement was consistent with previous findings of a similar intervention having had no effect on high school students' adjustment outcomes (Murray & Malmgren, 2005) and was inconsistent with previous research that has found evidence of a positive correlation between teacher-student relationships and academic engagement (Wu, Hughes, & Kwok, 2010). Murray and Malmgren (2005) did not report level of relationship quality in their study, yet they speculated that their lack of positive results may have been due to high school students interacting with multiple teachers throughout the day, while their intervention was delivered by only one of the students' teachers. In response to this speculation, the intervention in this study was delivered to elementary students who spent the entire school day with the same teacher that delivered the intervention. This suggests that some other factor precludes the ability to find the expected results.

The finding in this study that there was no effect of the intervention on student academic engagement may have been due to the possibility that there is no causal relationship between teacher-student relationships and academic engagement, in spite of the previous findings of a positive correlation (Wu, Hughes, & Kwok, 2010). Importantly, this intervention was based on the premise that there is a causal relationship. As such, the intervention did not propose to overtly teach students skills to exert additional effort on academic engagement—remember that the goal setting activity in this intervention was student centered and could be devoid of academic foci. Therefore, there was not a clear direct link between the intervention and academic engagement. Rather, it was theorized that as the teacher-student relationship improved the student would adopt some of the educational values held by the teacher and, thus, become more intrinsically

motivated to be engaged academically. Yet, as suggested by the lack of findings in this study, an improvement in teacher-student relationship quality does not necessarily cause the student to increase his or her academic engagement. In future studies it would be interesting to examine whether improving student perceptions of teacher-student relationship quality is positively correlated with increased student valuation of education.

Another possible explanation why the intervention did not have the anticipated effect on academic engagement could be the limited length of time students were exposed to the intervention. Little is known about the developmental process of improving relationships relative to time. In fact, as Blumstein and Kollock (1988) note: "[f]ew issues are as challenging as those posed by an examination of the temporal development of close relationships" (p. 17). Yet, it is widely accepted that most relationships undergo a developmental progression wherein they change across time. It is reasonable to posit that dyads that begin with low quality relationships need to progress further to achieve a high quality relationship than those that start with higher quality relationships. Thus, dyads beginning with low quality relationships, as opposed to those beginning with high quality relationships, likely require more time to improve.

In the current study, the students were exposed to the intervention for as little as 3 weeks and a maximum of 7 weeks. It is plausible that the duration of student exposure to the intervention was below a minimum threshold under which an effect on the student engagement behavior could not be realized. It would be interesting to examine the effect of extended intervention exposure duration on student academic engagement. Student response to prolonged intervention duration may be to increase their academic engagement.

The ability to detect a change in academic engagement was also hampered by the students' variability in engagement behavior. A high degree of variability in data patterns precludes the ability to discern a defined pattern of responding (Kratochwill et al., 2010). As can be seen in the data on academic engagement behavior, the students in this study showed relatively high variability. Across all students and phases, Jeremy showed the least level of variability—a range of 56% to 100% —while Mike showed the highest level of variability—a range of 3% to 77%. This high level of variability highlights that these students were prone to being highly distractible and were also capable of sustaining task focus. One possible explanation for the high variability in the academic engagement data is that child impulsivity led to high engagement with preferred activities and low engagement with aversive activities.

Disruptive Behavior and Academic Engagement

One explanation why this study found promising effects on disruptive behavior but not on academic engagement is that the students may have gained a higher level of respect for the teacher based on the improved relationship. This higher level of respect for a teacher in an authority role may be related to students wanting to be less disruptive to teaching activities. On the other hand, being academically disengaged may not be perceived by elementary aged students as being disrespectful to teachers. Thus, the increased respect associated with improved relationship quality may have no correlation with students' level of academic engagement. Examination of student perceptions of relationship quality and levels of respect for their teacher and the association with student behaviors would be interesting to pursue with future studies.

Teacher-Student Relationships

The findings from this small-scale investigation indicated that both of the teachers perceived an improvement in relationship quality with each of their respective students across the study. It must be noted that the relationship quality data collected was descriptive in nature due to the small sample size and thus cannot be used to infer a causal relationship. Relatedly, teacher perceptions of relationship quality were only gathered at two points in time to reduce the influence of repeat testing bias. However, changes in teacher ratings on the STRS, pre- to post-intervention, indicated the teachers perceived an increase that coincided with their delivery of the intervention. Jacobson, Follette, and Revenstorf (1984) note that clinical significance is evidenced when individuals who receive an intervention begin with levels that fall outside the range of the functional population and end with levels that fall within the range of the functional population, where range is two standard deviations beyond the mean for the population. Using this criterion, the increases in relationship quality were not clinically significant for Mike and Chris because their scores at time one were within the range of the functional population. The increase in relationship quality for Jeremy was clinically significant because his score fell outside the range of the functional population at time one and within the range of the functional population at time two.

In spite of the lack of consistent clinical significance in relationship improvement, among teachers, perhaps especially among elementary teachers who spend the whole day with the same students, any improvement in relationship quality, even within the functional range, may be of practical significance. In light of relationship quality being theorized as an important mechanism of student change, the teacher-reported

improvement in relationship quality is both interesting and promising. A substantial body of correlational evidence indicates that there is an association between teacher-student relationship quality and externalizing problem behavior (Baker, Grant, & Morlock, 2008; Hughes, Cavell, & Jackson, 1999; O'Connor et al., 2011; Wu, Hughes, & Kwok, 2010). Thus, the findings here are important because they provide preliminary evidence that the quality of these relationships can improve. The timing of this study—late in the school year—is even more telling, because teachers started delivery of the intervention after spring break, which meant that the teacher-student dyads had already had the majority of the school year for their relationships to crystallize. Therefore, the changes reported here are likely related to the teacher delivery and student exposure to the intervention. Although it is unclear whether changes in student behavior may have caused these changes or whether changes in relationships may have caused improved behavior, the reported changes in relationship perceptions at all is promising and illuminates the need for further research focused on understanding the interrelationship between a relationship-focused intervention and problem behavior.

According to Pianta (2001), when relationships improve in quality they tend to increase in closeness while also decreasing in conflict. Yet, as demonstrated in the current data, overall relationship quality can improve when one factor improves and the other remains the same. For Mike and Chris, the increase in overall relationship quality reported by the teachers was driven by an increase in closeness, while conflict remained largely unchanged. For Jeremy, the overall increase in relationship quality was driven by a decrease in conflict, and low levels of closeness were observed at both time points. Future research studying how interventions of this nature affect one or both dimensions

of relationships would help to direct intervention efforts toward students who can benefit the most. And future research examining how changes in one or both dimensions affect behavior would help inform teachers regarding which dimensions to target as part of their behavior management strategies.

According to Silver et al. (2004), teacher-student closeness is particularly salient for students with high levels of externalizing behaviors. It is interesting to note that Mike and Chris displayed the highest levels of disruptive behavior, and their teachers reported experiencing a more than double increase in closeness from time one to time two. Intriguingly, Jeremy displayed low levels of disruptive behavior across the baseline and intervention phases of the study, and his teacher reported experiencing no closeness at time one and time two. This description of the teachers' experience aligns with previous findings that teacher-student relationship closeness is of less consequence for students with low levels of externalizing behavior than for students with high levels of externalizing behavior. Put another way, interventions that focus on improving teacher-student closeness may be most efficacious among students who display high levels of disruptive behavior.

In the event that the intervention functioned to improve relationship quality, there are two possible explanations. The first is that the act of finding student qualities and developing a weekly repertoire of praise statements may have led the teachers to view the students in a more positive light. Confirmation bias—the tendency to recognize evidence that confirms and overlook evidence that does not support preconceived conclusions—is a commonly occurring bias (Nickerson, 1998). It is possible that teacher delivery of the intervention and, specifically, their developing a weekly repertoire of praise statements,

as well as having a weekly opportunity to have a positive, student- centered, one-on-one interaction with the students, had the effect of disrupting a negative confirmation bias. More specifically, these activities may have refocused teacher attention on positive student attributes and behaviors at the expense of paying attention to bias confirming negative attributes and behaviors.

A second explanation why the intervention may have affected the teacher-student relationship is that the observed decrease in student disruptive behavior improved the teachers' view of the students. Student externalizing behavior is a significant teacher work stressor that has been found to be significantly predictive of teacher burnout (Burke & Greenglass, 1993). Had the teachers who participated in this study associated the students and their accompanying disruptive behavior with the experience of work stress, the decreased level of disruptive behavior would likely have favorably influenced their views of the students. Unfortunately, given the limitations inherent to the small size of this study, it is impossible to make causal inferences about the teacher reports of increased relationship quality. Yet, this is an intriguing area that would be interesting to examine in larger future studies.

Ecological Model of Development

The promising results of the effect of the intervention on disruptive behavior, along with teacher reports of improved relationships, and social validity (discussed further below) support a major tenant of the ecological model of human development; reciprocal interpersonal processes have an effect on the outcomes or development of an individual. The intervention package was developed in accordance with the ecological model. More specifically, the one-on-one and the praise components were designed to

directly intervene on the interpersonal interactions within the teacher-student microsystem. The teacher-family communication component was designed to directly intervene on the interactions within the students' school-family mesosystem and also indirectly intervene on the interpersonal interactions within the student family microsystem. Bronfenbrenner (2005) posits "human development takes place through processes of progressively complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment" (p. 4). These interactions are referred to as proximal processes and take place within the microsystem. Unfortunately, among children in disadvantaged environments, proximal processes are thought to have the greatest impact on dysfunctional outcomes. On the other hand, among children in advantaged environments, proximal processes are thought to have the greatest impact on competency outcomes (Bronfenbrenner, 2005).

The intervention was designed to structure positive teacher-student interactions within the teacher-student microsystem. The students were nominated by their teachers for inclusion in this study due to having high levels of problem behavior and low quality relationships relative to their classmates. This suggests that these students were in a disadvantaged school environment relative to their classmates. Accordingly, these students may have been experiencing proximal processes at school that were impacting dysfunctional outcomes. Thus, the positive teacher-student interactions that were central to the intervention may have buffered some of the impacts of poor interactions at school, making the effects on competency outcomes less noticeable. Alternatively, in light of the proximal processes having the greatest impact on children in advantaged environments,

this intervention may have a greater impact on student competency among students who are already doing well in school. It would be interesting to examine how improving teacher-student relationships would have differential effects on students based upon students' relative level of advantage in the school environment.

The intervention was also designed to directly impact the teacher-family interactions within the students' mesosystem. Yet, one cannot make inferences about a causal relationship between the intervention and improved interactions between the teachers and families because neither the quality of these interactions nor the actors' perceptions of the interactions were measured. Also, the fidelity of implementation data on the teacher-family communication dosage was lacking (discussed in more detail below). Yet, it is possible that the promising results indicating that teacher-student relationships improved were influenced by the consistent, positive teacher-family communication. If this proposition were true, it would align with prior findings that suggest family-school interactions may be predictive of teacher-student relationships (Dearing et al., 2008). In future research, it would be interesting to examine whether positive teacher-family communication has an effect on teacher and family perceptions of their relationship along with concurrent effects on student-level school outcomes.

Finally, the intervention was designed to indirectly influence the student-family microsystem. It was theorized that the positive weekly teacher-family communication would indirectly positively impact the student-family relationship. That is, the increased teacher communication with families that focused on student good news would facilitate positive interactions between the student and his or her family. The idea that teachers may be able to impact the home lives of their students is very intriguing and deserves

closer scrutiny in future studies. Specifically, it would be interesting to measure family perceptions of their interactions with their child's teacher relative to student perceptions of their relationship with their family.

Social Validity

Teacher reports of their perceptions of the social validity of this intervention were encouraging. The teachers' composite scores on the IRP-15 were above the lower limit of acceptability. In regard to delivering the intervention to Mike, Teacher-1 indicated his approval of its acceptability in that he was strongly in agreement, in agreement, or somewhat in agreement with all of the items on the survey. In regard to delivering the intervention to Chris, Teacher-2 indicated her approval of its acceptability in that she was strongly in agreement, in agreement, or somewhat in agreement with 10 of the items on the survey, while neither agreeing nor disagreeing with the remaining five items. In regard to delivering the intervention to Jeremy, Teacher-2 indicated her approval of its acceptability, in that she was strongly in agreement, in agreement, or somewhat in agreement with all of the items on the survey, except *this is consistent with other interventions I have used*. It is interesting that Teacher-2 reported different levels of acceptability based upon the student to whom she was referring. This suggests that, from a teacher's perspective, the intervention may be more appropriate for some students than others.

The teachers' responses to the open-ended social validity survey questions provided more insight about their endorsement of the intervention as being feasible and advantageous to themselves and the students. Both participating teachers noted that the intervention facilitated their learning things about the students. In particular, teacher

reports of social validity of the intervention illuminated their perception of the intervention as an effective method of learning new things about their students, thus increasing their attunement. Attunement is a concept that has emerged in the field of therapeutic counseling as being vital to success (Pryce, 2012) and refers to the connection in the therapist-client dyad wherein the therapist learns about the client through verbal and non-verbal language. Teacher attunement to students with problem behavior may facilitate improvements in teacher-student relationship quality and improve the quality of services delivered because the teacher has a greater empathy and understanding of student needs.

When asked if they had learned anything new about the students through the weekly goal-setting meetings and the weekly family phone calls, teacher reports indicated that they had. Jeremy's teacher reported, "I think what I learned most about [Jeremy] during the goal setting meetings was how little practice he had engaging with adults." Mike's teacher reported, "I learned from [Mike's] mother that he was supposed to be wearing glasses '24/7.'" While these examples differ in terms of content, one can see that they are similar in that what the teachers learned about the students likely led to meaningful improvements in the students' school experience. Moreover, in both examples it is hard to imagine that it took until the end of the school year for the teachers to learn things so fundamental to a student's school success.

Teacher reports about having learned new things about the students through delivery of this intervention are especially noteworthy because this intervention took place at the end of the school year. It is likely that, if not for this intervention, the teachers would not have become as attuned to these students' needs. Had the teachers

been more attuned to these students' specific needs earlier in the school year, the students might have gotten the socioemotional and practical support that they needed, negating their referral to this study. This highlights the importance of making extra effort to be attuned to students who are likely to be neglected by their teachers—those who display high levels of problem behaviors.

The teachers also noted their perceptions of the benefits of the praise component of the intervention. An example of this is found in Teacher-1's statement: "I started (almost without thinking about it) giving [Mike] more praise in the classroom. I also use less corrective or negative language with him." Another example of this is found in Teacher-2's statement: "…it helped me to see [Chris] in a more positive way which probably affected the way I interacted with him in class…I found myself looking for positives during the week." The teacher-reported increase in devotion to noticing student strengths is a vital positive outcome of this intervention because of the widely acknowledged benefits of providing students with praise and the detriments of negative feedback (Andrews & Kozma, 1990; Beamann & Wheldal, 2000; Kamins & Dweck 1999; Sutherland, Wehby, & Copeland, 2000). Moreover, low teacher perception of students has been found to be associated with peer rejection (Hughes, Zhang, & Hill, 2006), as well as school engagement and achievement (Roorda, Koomen, Split, & Oort, 2011).

It would be interesting to examine the place of delivery of the intervention in future iterations of this line of research as a way of maximizing student buy-in to the intervention. In this study, the teachers noted that it was difficult to find time to meet with the students one-on-one during the average school day, and they commonly defaulted to

meeting during student free time. It can be reasoned that the students giving up their free time may have led to their having a more negative view of the one-on-one meeting than had they met during regular class time. This would likely be especially true among students who are motivated by peer attention. As such, future research that asks teachers to meet one-on-one with students may elicit better student buy-in if the activities do not infringe on student free time.

One method to ensure students get their free time and are exposed to the intervention would be to have recommendations about how teachers can enlist administrative staff support to provide assistance by monitoring the class during the short weekly 10-minute teacher-student meeting. For example, in light of the reduction in disruptive behaviors associated with this intervention, it is reasonable this intervention would decrease the number of ODRs exposed students would receive. Thus, it would behoove school administrative staff to proactively support this intervention as a way of decreasing office time spent processing discipline referrals. In the future, materials supplied to teachers as part of this intervention could have this argument laid out in a form letter to facilitate teachers approaching school administrative staff for their support. It would be interesting in future research to explore the relation between this intervention and ODRs to support this argument.

Limitations

In spite of this study's promising results, there are several limitations that should be considered. First, this study suffered from a 50% attrition rate, albeit prior to intervention introduction. Originally, six students and three teachers were recruited to participate. However, one teacher took a long-term personal leave after just 2 weeks of

collecting baseline data. It was not feasible to recruit more participants, because recruitment efforts had already blanketed the local schools and there was a need to stick to a rigid timeline, with the end of the school year marking a hard deadline. In addition to losing one teacher and the two students involved in that classroom, a third student moved to a more restrictive placement. Thus, this student left the setting where the observations took place and was no longer in class with the participating teacher. In all three cases, because the attrition occurred during baseline, prior to any subjects being introduced to the intervention, this attrition does not pose a considerable threat to internal validity (Kratochwill et al., 2010).

The attrition was unfortunate, because it necessitated the inclusion of a new student, Jeremy, who had demonstrated low levels of observed baseline disruptive behavior. The inclusion of Jeremy introduced the observed floor effect to the study and reduced the confidence in making the inference that there is a functional relationship between the intervention and disruptive behavior. The attrition also necessitated only two teachers participating in the study. The original intent was to have three dyads without teachers participating in more than one dyad, thus bolstering the internal validity of the study.

As mentioned above, a second limitation is the short duration of student exposure to the intervention. This likely limited the ability to detect a measurable change in the students' academic engagement. In fact, Bronfenbrenner (2009) notes that for proximal processes to effectively influence development they "must occur on a fairly regular basis over *extended* [emphasis added] periods of time" (p. 4). Thus, it is reasonable that the students and teachers would have benefited from longer exposure to the intervention. In

the case of all three students, there may have been a marked improvement in the level of academic engagement in response to extended exposure. In the case of Jeremy, extended exposure may have led to increased comfort when interacting with the teacher one-on-one and increased and more pronounced results. Jeremy's teacher noted that he appeared to be uncomfortable interacting one-on-one and that she perceived this to be due to a lack of experience interacting with adults. Yet, neither teacher commented on any discomfort exhibited by the other students. This suggests that Jeremy may have needed more exposure to the one-on-one component to become comfortable with the focused one-on-one time to realize the benefits.

A third limitation is the possibility of measurement error, in spite of the adequate proportion of interobserver sessions and adequate level of agreement. In regard to making minimally invasive observations of academic engagement (e.g., from the back of a classroom), one can argue that "spacing out" and other discrete off task behaviors can be hard to differentiate from engaging in independent seatwork. In fact, in this study, the interobserver rate for individual sessions fell below the threshold of 85% five times. In comparison, the individual interobserver rate for disruptive behavior in individual sessions never fell below this minimum threshold. An explanation for this may be related to the difficulty of making accurate judgments about what ostensibly is independent seatwork. Regardless of the explanation for this lower, albeit acceptable on average, level of interobserver agreement, this suggests that there may have been a degree of measurement error.

A fourth limitation is that Jeremy's teacher never spoke directly to anyone in Jeremy's family during this study. That is, each of the weekly calls was received by an

answering machine, to which a message was left. In spite of the teacher's intent to adhere to the core features of the intervention, having never been able to contact the family directly introduced the possibility that the family never received any dosage of the good news messages. The ability to infer that the family component of the intervention played a role in eliciting the promising relationship found between the intervention and disruptive behavior is negated. In future studies it would be important to have a contingency plan to gain data about family dosage.

A fifth limitation is this study relied upon self-report measures for relationship quality, fidelity, and social validity. The data on teacher-student relationship quality relied upon teacher reports. Improving teacher-student relationship quality was the primary intent of this intervention and, as can be seen in the teacher training materials (Appendix I), this was conveyed to the teachers in their training. It is possible that because the teachers knew this about the intervention, and by extension the study, they may have unconsciously inflated their relationship ratings upon conclusion of the study. Similarly, the teacher reports of fidelity and social validity are subject to their having unconsciously inflated their responses.

Finally, it should be noted that, as is the case with all single-subject design studies, this study is limited in that one must not automatically infer that the results generalize across contexts and to broader populations. While the findings of this study are encouraging among the participants, they are limited to these subjects and the contexts specific to this study. As such, further studies are needed to make stronger inferences about these findings.

Conclusion

Teachers with low quality relationships with their students tend to engage in coercive behavior management techniques when dealing with students who have pervasive problem behaviors (Hamre & Pianta, 2001; Pianta, Steinberg, & Rollins, 1995). The intent of this intervention was to provide teachers with an alternative in the form of an ecological method of behavior management. The promising finding that suggests students respond to exposure to the intervention by decreasing their disruptive behavior is important and highlights the intervention's potential as a classroom management technique among students who have chronic behavior problems. While there was no documentation of coercive interactions patterns with the dyads in this study, it can be argued that the behavior management strategies in place prior to this study were not functional because the student participants were referred by their teachers due to ongoing behavior problems and this study occurred late in the school year. Importantly, this intervention fits within a multi-tiered system of behavioral support and can be utilized as a more intensive individualized secondary intervention among students who are not responsive to schoolwide or classwide behavior management strategies and who have poor quality relationships with their teachers.

The noteworthy contribution of the study is that the intervention targets improving teacher-student relationships as the mechanism to affect behavior among students who have not been responsive to preexisting behavior management techniques. Thus, while only descriptive in nature, the teacher reports of increased relationship quality relative to the promising decreases in student disruptive behavior across the study are among the study's most intriguing implications.

The timing of the study is also important when considering its impact. The study took place over the last 3 months of the school year *and* the students were nominated for inclusion in this study by their teacher and their school principal in March. This suggests that the students had not been responsive to existing schoolwide or classwide behavior management techniques that had been in place for two-thirds of the school year. And it illustrates that, in accordance with the multi-tiered system of support model, there are students who remain non-responsive to orthodox behavior management strategies and continue to display high levels of externalizing behaviors. The current action research study provides preliminary evidence toward providing teachers with ecological relationship-focused, research-based interventions for students who are not responsive to primary behavior supports and need secondary and tertiary support.

APPENDIX A

PROBLEM BEHAVIOR RATING SCALE

Your name:_____ Students name:_____ Date:_____

Please mark how often student displays each of the following.
N = NEVER, **S** = SELDOM, **O** = OFTEN, **A** = ALWAYS

1. Acts without thinking.	N	S	O	A
2. Is preoccupied with object parts.	N	S	O	A
3. Bullies others.	N	S	O	A
4. Becomes upset when routines change.	N	S	O	A
5. Has difficulty waiting for turn.	N	S	O	A
6. Does things to make others feel scared.	N	S	O	A
7. Fidgets or moves around too much.	N	S	O	A
8. Has stereotyped motor behaviors.	N	S	O	A
9. Forces others to act against their will.	N	S	O	A
10. Withdraws from others.	N	S	O	A
11. Has temper tantrums.	N	S	O	A
12. Keeps others out of social circles.	N	S	O	A
13. Breaks into or stops group activities.	N	S	O	A
14. Repeats the same thing over and over.	N	S	O	A
15. Is aggressive toward people or objects.	N	S	O	A
16. Gets embarrassed easily.	N	S	O	A
17 Cheats in games or activities.	N	S	O	A
18. Acts lonely.	N	S	O	A
19. Is inattentive.	N	S	O	A
20. Has nonfunctional routines or rituals.	N	S	O	A
21. Fights with others.	N	S	O	A
22. Says bad things about self.	N	S	O	A
23. Disobeys rules or requests.	N	S	O	A
24. Has low energy or is lethargic.	N	S	O	A
25. Gets distracted easily.	N	S	O	A
26. Uses odd physical gestures in interactions.	N	S	O	A
27. Talks back to adults.	N	S	O	A
28. Acts sad or depressed.	N	S	O	A
29. Lies or does not tell the truth.	N	S	O	A
30. Acts anxious with others.	N	S	O	A

APPENDIX B

THE FUNCTIONAL CHECKLIST FOR TEACHERS AND STAFF

Efficient Functional Behavior Assessment: The Functional Assessment Checklist for Teachers and Staff: Part A

Step 1 Student/ Grade: Date:
Interviewer: _____ Respondent(s): _____

Step 2 **Student Profile:** Please identify at least three strengths or contributions the student brings to school.
_____
_____

Step 3 **Problem Behavior(s): Identify problem behaviors**

___ Tardy	___ Fight/physical Aggression	___ Disruptive	___ Theft
___ Unresponsive	___ Inappropriate Language	___ Insubordination	___ Vandalism
___ Withdrawn	___ Verbal Harassment	___ Work not done	___ Other _____
	___ Verbally Inappropriate	___ Self-injury	

Describe problem behavior: _____

Step 4 **Identifying Routines: Where, When and With Whom Problem Behaviors are Most Likely.**

Schedule (Times)	Activity	Likelihood of Problem Behavior	Specific Problem Behavior
		Low 1 2 3 4 5 6 High	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	
		1 2 3 4 5 6	

Step 5 **List the Routines in order of Priority for Behavior Support: Select routines with ratings of 5 or 6. Only combine routines when there is significant (a) similarity of activities (conditions) and (b) similarity of problem behavior(s). Complete the FACTS-Part B for each of the prioritized routine(s) identified.**

	Routines/Activities/Context	Problem Behavior(s)
Routine # 1		
Routine # 2		
Routine # 3		

Adapted by C. Anderson & C. Borgmeier (2007) from March, Horner, Lewis-Palmer, Brown, Crone & Todd (1999)

Efficient Functional Behavior Assessment: The Functional Assessment Checklist for Teachers and Staff: Part B

Step 6 **Routine/Activities/Context:** Which routine(only one) from the FACTS-Part A is assessed?

Routine/Activities/Context	Problem Behavior(s)

Step 7 **Provide more detail about the problem behavior(s):**

What does the problem behavior(s) look like?

How often does the problem behavior(s) occur?

How long does the problem behavior(s) last when it does occur?

What is the intensity/level of danger of the problem behavior(s)?

Step 8 **ANTECEDENTS: TRIGGERS AND SETTING EVENTS**

What are the events that predict when the problem behavior(s) will occur? (Predictors).

Identify the trigger generally

1. **In this routine, what happens most often just before problem behavior?** _____
2. **If you put this trigger in place 10 times, how often would it result in problem behavior?**
3. **Does problem behavior ever happen when (opposite of trigger or trigger absent)?**

Triggers		
____Tasks	____Reprimands	____Transitions
____Unstructured time	____Structured/non-academic activities	____Isolated, no-one around

Identify specific features of the trigger		
If tasks (e.g., group work, independent work, small-group instruction, lecture)…	Describe the task in detail (e.g., duration, ease of task for student), what features of it likely are aversive to the student and why is this hypothesized?	
If unstructured time…	Describe the setting, activities, and who is around	
If reprimand…	Describe who delivers the reprimand, what is said, and what the purpose of the correction is	
If structured, nonacademic activities	Describe the context, who is around, what activities are going on, what behaviors are expected?	
If transitions	Describe the activity that is being terminated and the one that is being transitioned to. Identify whether any of the activities are highly preferred or non-preferred, which are structured versus non-structured.	
If isolated	Where did the behavior occur? What features of the environment might be relevant?	

Adapted by C. Anderson & C. Borgmeier (2007) from March, Horner, Lewis-Palmer, Brown, Crone & Todd (1999)

Step 9

Are setting events relevant?

1. **Is there something that, when present makes it more likely that the trigger identified above sets off the behavior?**
2. **If yes, is this event present sometimes and absent others? Does the behavior occur only when the event is present?**

Setting Events		
____Correction/failure in previous class	____Conflict at home	____Hunger
____Peer conflict	____Correction from adult earlier in day	____Lack of sleep
____Change in routine	___Homework/assignment not completed	___Medication (missed or taken)

Step 10

CONSEQUENCES

What consequences appear most likely to maintain the problem behavior(s)?

Identify the consequence generally

In the routine identified, when the trigger occurs and problem behavior happens, what occurs next?

1. **What do you do? What do other students do? What activities happen or stop happening?**
2. **Narrow it down: Take each consequence identified above:**
   a. **Would the behavior still happen if that consequence couldn't occur (e.g., if peer attention, no other students were around?; if your attention, would the behavior still occur if you were not around? If escape, would the behavior still occur if the task was easier?)**
   b. **Of the last 10 times you saw the behavior, how often did this consequence occur?**

Things that are Obtained		Things Avoided or Escaped From	
___ adult attention	Other: _____	___ hard tasks	Other: _____
___ peer attention	_____	___ reprimands	_____
___ activity		___ peer negatives	_____
___ money/things	_____	___ physical effort	_____
		___ adult attention	_____

Identify specific features of the Consequence

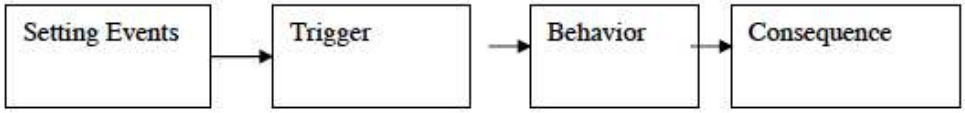
Identify specific features of the consequence		
If adult or peer attention is obtained or avoided.	Define who delivers attention, what they say, and how long the attention typically lasts. What does the student do following this attention—is their a back-and-forth that occurs? Does behavioral escalation occur?	
If an activity or request follows or is removed	Describe the specific activity including who else is present, what the activity consists of, and how long it lasts.	
If tangible items are obtained or removed	Describe the specific item(s) obtained including who else is present and how long the student has access to the item.	
If sensory stimulation possibly occurs or is removed	Describe the context, who is around, what activities are going on, what behaviors are expected?	

Adapted by C. Anderson & C. Borgmeier (2007) from March, Horner, Lewis-Palmer, Brown, Crone & Todd (1999)

Step 11

SUMMARY OF BEHAVIOR

Identify the summary that will be used to build a plan of behavior support.



How confident are you that the Summary of Behavior is accurate?

Not very confident					Very Confident
1	2	3	4	5	6

March, Horner, Lewis-Palmer, Brown , Crone, Todd, & Carr (2000) 4/24/00

Adapted by C. Anderson & C. Borgmeier (2007) from March, Horner, Lewis-Palmer, Brown, Crone & Todd (1999)

APPENDIX C

SYSTEMATIC SCREENING FOR BEHAVIOR DISORDERS:

ACADEMIC ENGAGED TIME RECORDING FORM

Systematic Screening for Behavior Disorders
ACADEMIC ENGAGED TIME (AET) RECORDING FORM

Student Name _____ School _____ Grade ____

Teacher Name _____ Observer _____

Reliability Observer _____

SESSION #1

Date _____

Time Start _____ Time Stop _____ Length of Session _____

_____ ÷ _____ = _____ x 100 = _____

Time on Stopwatch | Length of Session | AET | % AET

Convert time to total # of seconds (minute equals 60 seconds) before computing. Divide time on stopwatch by total time observed.

Classroom Activity During Observation:

_____

_____

SESSION #2

Date _____

Time Start _____ Time Stop _____ Length of Session _____

_____ ÷ _____ = _____ x 100 = _____

Time on Stopwatch | Length of Session | AET | % AET

Convert time to total # of seconds (minute equals 60 seconds) before computing. Divide time on stopwatch by total time observed.

Classroom Activity During Observation:

_____

_____

Total Time Engaged for Sessions 1 & 2 = _____ seconds = _____ (Total AET)

Total Time Observed for Sessions 1 & 2 = _____ seconds

Average Percent AET for Sessions 1 & 2 = Total AET _____ x 100 = _____ (Percent AET)

APPENDIX D

DISRUPTIVE BEHAVIOR

RECORDING SHEET

Name:_____

Student name:_____

Date:_____

Time:_____

Note:
YES indicates the student exhibited disruptive behavior at some point during the interval;
No indicates the student did not exhibit disruptive behavior during the interval.

10-Second Intervals	DISRUPTIVE	
1	YES	NO
2	YES	NO
3	YES	NO
4	YES	NO
5	YES	NO
6	YES	NO
7	YES	NO
8	YES	NO
9	YES	NO
10	YES	NO
11	YES	NO
12	YES	NO
13	YES	NO
14	YES	NO
15	YES	NO
16	YES	NO
17	YES	NO
18	YES	NO
19	YES	NO
20	YES	NO
21	YES	NO
22	YES	NO
23	YES	NO
24	YES	NO
25	YES	NO
26	YES	NO
27	YES	NO
28	YES	NO
29	YES	NO
30	YES	NO
31	YES	NO
32	YES	NO
33	YES	NO
34	YES	NO
35	YES	NO
36	YES	NO
37	YES	NO
38	YES	NO
39	YES	NO
40	YES	NO
Totals		
% intervals disruptive		

APPENDIX E

STUDENT-TEACHER RELATIONSHIP SCALE

STRS Student-Teacher Relationship Scale™ Response Form

Teacher's name _____ Gender: M F Ethnicity _____ Date ___/___/___

Child's name _____ Grade _____ Gender: M F Ethnicity _____ Age _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the point scale below, CIRCLE the appropriate number for each item. If you need to change your answer, DO NOT ERASE! Make an X through the incorrect answer and circle the correct answer.

1 Definitely does not apply	2 Does not really apply	3 Neutral, not sure	4 Applies somewhat	5 Definitely applies

1. I share an affectionate, warm relationship with this child.	1	2	3	4	5
2. This child and I always seem to be struggling with each other.	1	2	3	4	5
3. If upset, this child will seek comfort from me.	1	2	3	4	5
4. This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5. This child values his/her relationship with me.	1	2	3	4	5
6. This child appears hurt or embarrassed when I correct him/her.	1	2	3	4	5
7. When I praise this child, he/she beams with pride.	1	2	3	4	5
8. This child reacts strongly to separation from me.	1	2	3	4	5
9. This child spontaneously shares information about himself/herself.	1	2	3	4	5
10. This child is overly dependent on me.	1	2	3	4	5
11. This child easily becomes angry with me.	1	2	3	4	5
12. This child tries to please me.	1	2	3	4	5
13. This child feels that I treat him/her unfairly.	1	2	3	4	5
14. This child asks for my help when he/she really does not need help.	1	2	3	4	5
15. It is easy to be in tune with what this child is feeling.	1	2	3	4	5
16. This child sees me as a source of punishment and criticism.	1	2	3	4	5
17. This child expresses hurt or jealousy when I spend time with other children.	1	2	3	4	5
18. This child remains angry or is resistant after being disciplined.	1	2	3	4	5
19. When this child is misbehaving, he/she responds well to my look or tone of voice.	1	2	3	4	5
20. Dealing with this child drains my energy.	1	2	3	4	5
21. I've noticed this child copying my behavior or ways of doing things.	1	2	3	4	5
22. When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
23. This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
24. Despite my best efforts, I'm uncomfortable with how this child and I get along.	1	2	3	4	5
25. This child whines or cries when he/she wants something from me.	1	2	3	4	5
26. This child is sneaky or manipulative with me.	1	2	3	4	5
27. This child openly shares his/her feelings and experiences with me.	1	2	3	4	5
28. My interactions with this child make me feel effective and confident.	1	2	3	4	5

APPENDIX F

GOAL SETTING WORKSHEET

Student Name: Date:

Start Time: Stop Time:

GOAL IDENTIFIED FOR THIS WEEK:

STRATEGIES FOR MEETING THIS GOAL:

POSSIBLE ROADBLOCKS TO MEETING THIS GOAL:

STRATEGIES TO OVERCOME THE ROADBLOCKS IDENTIFIED ABOVE:

Next Step: **Did you make your goal?**
If "Yes"—create new goal! If "No"—Modify goal, strategies, and/or roadblocks and attempt again!

APPENDIX G

PRAISE WORKSHEET

Student Name:	Date:

STEP 1 QUALITIES

3 OR MORE STUDENT QUALITIES OF FOCUS FOR THIS WEEK

STEP 2 BEHAVIORS

STUDENT BEHAVIORS THAT DEMONSTRATE EACH OF THESE QUALITIES

STEP 3 PRAISE

THREE PROCESS PRAISE STATEMENTS (ONE FOR EACH BEHAVIOR)

1)

2)

3)

STEP 4 RECORD

RECORD THE NUMBER OF PRAISE STATEMENTS YOU PROVIDE DURING THE GOAL SETTING MEETINGS	**#1**
	#2
	#3

APPENDIX H

COMMUNICATION WORKSHEET

Family member: Date:

EXAMPLE INTRODUCTION
Hello Mr., Mrs., or Ms. _name_ I am calling to talk with you about some good things that _student name_ has done this week. For example, they _behavior—from reverse side_ and this was exciting because I could tell it required _related process—from reverse side_. Another thing I saw was _another positive behavior—from reverse side._

EXAMPLE QUESTIONS
What are your thoughts about _student name_ progress?
What other things do you think we could do to help _student name_?
Do have anything that you feel would be interesting for me to know about _student name_ life? Like what have they been enjoying lately or anything else you would like to share.

PARAPHRASING
"Sorry to interrupt Mr., Mrs., or Ms. _name_. This is important to me, so I want to make sure I understand. Did you say _repeat relevant points_?"

EXAMPLE CLOSURE
"Mr., Mrs., or Ms. _name_ it has been a pleasure talking with you, thank you so much for your time. I learned a lot that will help me provide individualized supports. I look forward to future conversations and to help _student name_ improve their experience in our school. Is there anything else you would like me to know? ...O.K. If you want to talk or would like to tell me anything, please feel free to call me or send me an email."

NOTES:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
-

KEEP TO POSITIVES: 3 steps to follow when family initiates negative conversation

1) Provide affirmation by repeating family members concern.
2) State that you would like to focus this conversation on the positives you are calling about.
3) Let them know that you would like to talk about their concerns at another time (set time if applicable).

APPENDIX I

TEACHER TRAINING MATERIALS

Overview of Intervention Significance

This intervention is designed to decrease disruptive behaviors and increase academic engagement.

It has 3 components:

- Positive teacher-student time
- Teacher delivered praise
- Family-teacher collaboration

The following details the rationale and importance of each of the components.

Children who display ongoing behavior problems at school face a greater risk of academic, emotional, social adjustment problems than their peers (McLeod & Kaiser, 2004; Reid et al., 2004). An ecological systems development model highlights the importance of positive interpersonal relationships for normative development. Developing high quality teacher-student relationships, providing praise, and developing family-teacher collaboration show promise as methods of improving the adjustment outcomes for children with pervasive behavior problems.

Teacher-student relationships

High quality teacher-student relationships are shown to be associated with social skill development, academic success, and reduction of externalizing behavior problems (O'Connor et al., 2011; O'Connor & McCartney, 2007; Tsai & Cheney, 2012). Poor quality teacher-student relationships, on the other hand, are related with academic failure, delinquency, and increased externalizing behaviors (Birch & Ladd, 1998; O'Connor & McCartney, 2007; Silver et al., 2005). More specifically, teacher-student relationships have been found to be predictive of school engagement behaviors and fewer disruptive behaviors (Wu et al., 2010). Regrettably, children with pervasive behavioral problems experience poorer teacher-student interactions and more negative outcomes than their peers (Henricsson & Rydell, 2004) and teachers who have low quality relationships with students tend to rely on coercive behavior management techniques (Hamre & Pianta, 2001; Pianta et al., 1995). Fortunately, teacher-student relationships have been demonstrated to be malleable (Lander, 2009) and feasible for teachers to implement in the course of normal school routines (Murray & Malmgren, 2005).

Praise

Praise is a positive social reinforcement that is efficacious in strengthening and increasing target behaviors, as well as improving motivation, task enjoyment, and performance (Becker et al., 1967; Hester et al., 2009; Madsen et al., 1968; Zimmerman & Zimmerman, 1962). Teacher delivered praise has been linked to general positive behaviors, specific on-task behavior, and academic adjustment among children with

emotional and behavioral disorders (Sutherland et al., 2000; Andrews & Kozma, 1990). Yet, to be effective, praise needs to be behavior contingent, immediate, consistent, proximal, specific, and tailored to individual needs (Hester et al., 2009). Praise that targets children's strategies and process has been linked to favorable results, such as increased motivation, task enjoyment, and performance (Kamins & Dweck, 1999; Mueller & Dweck, 1998). In total, process praise can be a very effective behavior management tool in the hands of teachers that not only facilitates acceptable student behavior but also children's motivation, enjoyment, and resilience to failure experiences.

Family-teacher collaboration

Family-teacher collaboration is a protective factor that can counter a number of risk factors experienced by children (e.g., low socioeconomic status, negative school experiences, minority ethnicity, disability status, and poor family bonding; Christenson & Sheridan, 2001; Murray, 2003). Collaboration between teachers and families can be impeded by lack of communication, and low levels of trust, in addition to children attributing collaborative efforts to their behavior problems (Lawson, 2003). The frequency of communication between teachers and parents has been demonstrated to be predictive of family involvement in their children's school lives (Watkins, 1997). Yet, as Epstein (1986) notes, in spite of the ubiquity of telephones as a medium of communication, only 40% parents of first- through fifth-grade students (n = 1269) had *ever* spoken to their child's teacher on the phone. Moreover, Adams and Christenson (2000) report that both families and teachers perceive communication to be a crucial opening to foster trust in their relationship.

Research suggests that the families of children with low levels of on-task behaviors and poor socioemotional development have more contact with their child's teachers (Izzo et al., 1999). It is, therefore, reasonable to infer that teacher-parent communication focuses primarily on child behavioral difficulties. Further evidence of this logic lies in the finding that poor quality family-teacher interactions are positively linked with problem behaviors (Izzo et al., 1999). As such, to realize the benefits of increased communication, it is important to ensure that the communication is of high quality. Finally, as postulated by the ecological framework, one set of dyadic relationships can influence another set of dyadic relationships through what are considered spillover effects (Katz & Gottman, 1996). Dearing et al. (2008) note spillover effects, "whereby one dyadic relationship (e.g., parent-parent relationship) influences another dyadic relationship (e.g., parent-child relationships) in children's social system, have been well documented *within* families" (p. 230). They further argue that spillover effects from a positive family-teacher relationship may positively influence the child-teacher relationship.

TEACHER TRAINING MATERIALS:
ONE-ON-ONE ACTIVITY

When delivering the goal setting activity try to convey a high level of acceptance. Acceptance is **unconditional positive regard/respect**, which means a teacher is able to work with a student as an individual, **not based upon the student's behavioral or academic problems.**

There are seven levels of acceptance when working with students. They are (from least to greatest):

The teacher is intentionally judgmental, harsh, disrespectful, labeling, or condescending. Many confrontational interactions.

The teacher is inadvertently judgmental, harsh, disrespectful, labeling, or condescending. Several confrontational interactions.

The teacher demonstrates little acceptance and respect for the student. The teacher confuses acceptance with approval of student traits/behavior. The teacher uses few or one-word affirmations, closed questions. Some confrontational interactions.

The teacher communicates sporadic acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several affirmations. Few confrontational interactions.

The teacher communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses specific affirmations. No confrontational interactions.

The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. No confrontational interactions.

The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses many specific affirmations. No confrontational interactions.

TEACHER TRAINING
ACCEPTANCE QUIZ

List in order from least (1) to most (7) the following levels of teacher acceptance.

REMEMBER: Acceptance is unconditional positive regard/respect, which means a teacher is able to work with a student as an individual, not based upon the student's behavioral or academic problems.

_____ The teacher demonstrates little acceptance and respect for the student. The teacher confuses acceptance with approval of student traits/behavior. The teacher uses few or one-word affirmations, closed questions. Some confrontational interactions.

_____ The teacher is intentionally judgmental, harsh, disrespectful, labeling, or condescending. Many confrontational interactions.

_____ The teacher communicates sporadic acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several affirmations. Few confrontational interactions.

_____ The teacher communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses specific affirmations. No confrontational interactions.

_____ The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses many specific affirmations. No confrontational interactions.

_____ The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several specific affirmations. No confrontational interactions.

_____ The teacher is inadvertently judgmental, harsh, disrespectful, labeling, or condescending. Several confrontational interactions.

TEACHER TRAINING
ACCEPTANCE QUIZ KEY

3 The teacher demonstrates little acceptance and respect for the student. The teacher confuses acceptance with approval of student traits/behavior. The teacher uses few or one-word affirmations, closed questions. Some confrontational interactions.

1 The teacher is intentionally judgmental, harsh, disrespectful, labeling, or condescending. Many confrontational interactions.

4 The teacher communicates sporadic acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several affirmations. Few confrontational interactions.

5 The teacher communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses specific affirmations. No confrontational interactions.

7 The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses many specific affirmations. No confrontational interactions.

6 The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several specific affirmations. No confrontational interactions.

2 The teacher is inadvertently judgmental, harsh, disrespectful, labeling, or condescending. Several confrontational interactions.

TEACHER TRAINING
GOAL SETTING WORKSHEET

Student Name: Date:
Start Time: Stop Time:

GOAL IDENTIFIED FOR THIS WEEK:

STRATEGIES FOR MEETING THIS GOAL:

POSSIBLE ROADBLOCKS TO MEETING THIS GOAL:

STRATEGIES TO OVERCOME THE ROADBLOCKS IDENTIFIED ABOVE:

Next Step: **Did you make your goal?**
If "Yes"—create new goal! If "No"—Modify goal, strategies, and/or roadblocks and attempt again!

TEACHER TRAINING:
PRAISE

QUALITIES:

Examples
- Determined
- Patient
- Responsible

Non-examples
- Annoying
- Impulsive
- Obnoxious

SPECIFIC BEHAVIORS BASED ON THE QUALITIES EXAMPLES

Examples
- Focused when working on the computer
- Sitting quietly waiting turn to talk
- Ignoring peers

Non-examples
- Being good
- Mature
- Smart

BEHAVIOR-SPECIFIC PROCESS PRAISE STATEMENTS

Examples
- I can tell that you were working hard to stay concentrated when you were writing your spelling words on the computer.
- That was impressive. I can tell you are practicing waiting to take your turn to talk.
- Way to go, I can tell that you tried hard to ignore the other children.

Non-examples
- That was smart that you were concentrating when writing your spelling words.
- Nice work, you are so mature to wait your turn to talk.
- You must be smart to know to ignore the other children.

TEACHER TRAINING
PRAISE WORKSHEET

Student Name:	Date:

STEP 1 QUALITIES

3 OR MORE STUDENT QUALITIES OF FOCUS FOR THIS WEEK

STEP 2 BEHAVIORS

STUDENT BEHAVIORS THAT DEMONSTRATE EACH OF THESE QUALITIES

STEP 3 PRAISE

THREE PROCESS PRAISE STATEMENTS (ONE FOR EACH BEHAVIOR)

1)

2)

3)

STEP 4 RECORD

RECORD THE NUMBER OF PRAISE STATEMENTS YOU PROVIDE DURING THE GOAL SETTING MEETINGS	#1
	#2
	#3

TEACHER TRAINING:
COLLABORATION STRATEGIES

Strategies for family-teacher collaboration

- Operate under the assumption that all families want to be involved in their children's education, and that all families can help improve their teen's educational outcomes.
- Make communicating positive messages routine.
- Solicit input from families through conversations.
- Ask families to share the ways they support their teens at home.
- Provide information to families about school activities, policies, and opportunities frequently.
- Refrain from blaming families for student problems.

Specific strategies for communication with families

- Use formal titles, unless instructed otherwise.
- Use a respectful and polite tone.
- Use everyday language, avoiding educational jargon or acronyms.
- Listen to parents.
- Provide clear, straight answers without dodging difficult issues.

TEACHER TRAINING
GOOD NEWS SCRIPTS

Good News Call Script

Teacher (T): Hello, this is _your name_ from _child's name_ 's school. Is Mr., Mrs., or Ms. _name_ available?

Family member (FM): Yes, this is _name_ .

T: I am calling to talk with you about some good things that _student name_ has done this week. For example, s/he _behavior—from praise worksheet_ and this was exciting because I could tell it required _related process—from praise worksheet_ . Another thing I saw was _pick another process praise statement._

FM: Thank you for letting me know. That really surprises me, because s/he has been having such a hard time at school this year!

T: Yeah, I know. I was excited when I saw _him/her describe behavior_ and I told him/her so. Is there anything that you think might help me to encourage this type of behavior?

FM: Yeah, _student name_ talks a lot about s/he is worried about looking dumb in front of her/his friends when they do not know an answer in class. I told her/him that no one knows all the answers and everyone makes mistakes, but s/he said that that is not true and that some kids are always right and he/she can hear them laughing at other kids when they are wrong. I am actually surprised that he/she did what you said.

T: Thank you, Mr., Mrs., Ms. _name_ . This is really helpful. Did I understand you right? _student name_ is worried that the other kids are laughing at him/her? This is important to me because I was not aware that the other children are being mean.

FM: Don't tell _student name_ that I told you this. I promised that it was our secret.

T: I won't. Mr., Mrs., or Ms. _name_ , it has been a pleasure talking with you. Thank you so much for your time. I learned a lot that will help me provide individualized supports. I look forward to continuing our conversation in the future, and to help _student name_ improve her/his experience in our school. Is there anything else you would like me to know?

FM: Not right now.

T: O.K. If you want to talk or would like to tell me anything, please feel free to call me or send me an email. Good-bye.

Good News Message Script

Hello, this is your name from child's name 's school. This message is for Mr., Mrs., or Ms. name . I am calling to tell you about some good things that student name has done this week. For example, s/he behavior—from praise worksheet and this was exciting because I could tell it required related process—from praise worksheet . Another thing I saw was pick another process praise statement. I was hoping to tell you directly and am looking forward to a conversation in the future. If there is anything you would like me to know, please feel free to call me. My number is _____, and I often have time to talk after school hours, or send me an email. My email address is ___ _____.

Please write your own “good news message” script.

TEACHER TRAINING
COMMUNICATION WORKSHEET

Family member: Date:

EXAMPLE INTRODUCTION
Hello Mr., Mrs., or Ms. _name_ I am calling to talk with you about some good things that _student name_ has done this week. For example, they _behavior—from reverse side_ and this was exciting because I could tell it required _related process—from reverse side_. Another thing I saw was _another positive behavior—from reverse side._

EXAMPLE QUESTIONS
What are your thoughts about _student name_ progress?
What other things do you think we could do to help _student name_?
Do have anything that you feel would be interesting for me to know about _student name_ life? Like what have they been enjoying lately or anything else you would like to share.

PARAPHRASING
"Sorry to interrupt Mr., Mrs., or Ms. _name_. This is important to me, so I want to make sure I understand. Did you say _repeat relevant points_?"

EXAMPLE CLOSURE
"Mr., Mrs., or Ms. _name_ it has been a pleasure talking with you, thank you so much for your time. I learned a lot that will help me provide individualized supports. I look forward to future conversations and to help _student name_ improve their experience in our school. Is there anything else you would like me to know? ...O.K. If you want to talk or would like to tell me anything, please feel free to call me or send me an email."

NOTES:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
-

KEEP TO POSITIVES: 3 steps to follow when family initiates negative conversation

1) Provide affirmation by repeating family members concern.
2) State that you would like to focus this conversation on the positives you are calling about.
3) Let them know that you would like to talk about their concerns at another time (set time if applicable).

APPENDIX J

FIDELITY OF IMPLEMENTATION

CODING FORMS

Fidelity Coding Form: Goal Setting

GOAL SETTING WORKSHEET & AUDIO RECORDING

Teacher:_____ Student:_____ Date:_____

Percentage of steps completed:

# of completed steps:_____ / 10 steps total X 100 = ____% completion.

Teacher acceptance during one-on-one goal setting interaction.

Acceptance (unconditional positive regard/respect): The teacher is able to work with the students as an individual, not based upon the student's behavioral or academic problems.						
1	2	3	4	5	6	7
The teacher is perceived as intentionally judgmental, harsh, disrespectful, labeling, or condescending. Many confrontational interactions.	The teacher is perceived as inadvertently judgmental, harsh, disrespectful, labeling, or condescending. Several confrontational interactions.	The teacher demonstrates little acceptance and respect for the student. The teacher confuses acceptance with approval of student traits/behavior. The teacher uses few or one-word affirmations, closed questions. Some confrontational interactions.	The teacher communicates Sporadic acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several affirmations. Few confrontational interactions.	The teacher communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses specific affirmations. No confrontational interactions.	The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses several specific affirmations. No confrontational interactions.	The teacher clearly communicates acceptance and respect for the student. Acceptance is generally person-focused and not confused with approval of the student traits/behavior. The teacher uses many specific affirmations. No confrontational interactions.

Rater comments:_____

_____

_____

Adapted from:

Miller, W. R., Moyers, T. B., Ernst, D., & Amrhein, P. (2003). *Manual for the Motivational InterviewingSkills Code (MISC) v. 2.1.* Retrieved from http://casaa.unm.edu/codinginst.html

Fidelity Coding Form
Praise & Communication

Teacher name:_____ **Student Name:**_____ **Date:**_____

Percentage of steps completed:

# of completed steps:_____ / 24 steps total X 100 = ____% completion.

Process praise statements (process or not), Circle yes or no:

1) Yes No	2) Yes No	3) Yes No

Daily praise delivery count:

Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**

COMMUNICATION WORKSHEET

Circle one: Conversation Message

Minutes of conversation: Rate each note topic. Is it positive, neutral, or negative?

Enter: + = positive, N = neutral, — = negative.

Point	**+, N, —**	**Point**	**+, N, —**	**Point**	**+, N, —**
1		**8**		**15**	
2		**9**		**16**	
3		**10**		**17**	
4		**11**		**18**	
5		**12**		**19**	
6		**13**		**20**	
7		**14**		**21**	

APPENDIX K

TEACHER QUESTIONNAIRE OF SOCIAL VALIDITY

Please circle the number which best describes your agreement or disagreement with each statement.	*Strongly Disagree*	*Disagree*	*Slightly Disagree*	*Slightly Agree*	*Agree*	*Strongly Agree*
1. This would be an acceptable intervention for the child's problem behavior.	1	2	3	4	5	6
2. Most teachers would find this intervention appropriate for behavior problems in addition to the one described.	1	2	3	4	5	6
3. This intervention should improve effective in changing the child's problem behavior.	1	2	3	4	5	6
4. I would suggest the use of this intervention to other teachers.	1	2	3	4	5	6
5. The child's behavior problem is severe enough to warrant use of this intervention.	1	2	3	4	5	6
6. Most teachers would find this intervention suitable for the behavior problem described.	1	2	3	4	5	6
7. I would be willing to use this intervention in the classroom setting.	1	2	3	4	5	6
8. This intervention would *not* result in negative side-effects for the child.	1	2	3	4	5	6
9. This intervention would be appropriate for a variety of children.	1	2	3	4	5	6
10. This intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6
11. This intervention was a fair way to handle the child's problem behavior.	1	2	3	4	5	6
12. This intervention is reasonable for the behavior problem this child displays.	1	2	3	4	5	6
13. I liked the procedures used in this intervention.	1	2	3	4	5	6
14. This intervention was a good way to handle this child's behavior.	1	2	3	4	5	6
15. Overall, this intervention would be beneficial for the child.	1	2	3	4	5	6

Name:_____ **Student Name:**_____ **Date:**_____

The purpose of this questionnaire is to get your insight on the intervention. Be as specific as possible. If you can think of examples or anecdotes when answering the questions, please include them.

1) Were you able to find time during the day to meet with students?_____

When?_____

Where?_____

2) Did the student enjoy meeting with you? _____

3) Did you enjoy meeting with the student?_____

4) Did the student seem engaged in the activity?_____

5) **Did you need to manage the student's behavior during the activity? If so, how, and did this negatively affect the nature of the activity**?

6) **Do you feel that you learned anything *new* about students from these meetings or from the weekly family phone calls? If so, what**?

7) What do you feel was the most valuable aspect of meeting with the student?

8) What do you feel was the most valuable aspect of the weekly family phone calls?

9) Did you find that interactions with the student (in the class or in common areas) tended to be more positive after starting the intervention?

10) Was it nice to have a structured one-on-one activity during which you could focus on the child with a high level of acceptance without regard to problem behaviors?

11) Do you have any other comments or input?

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